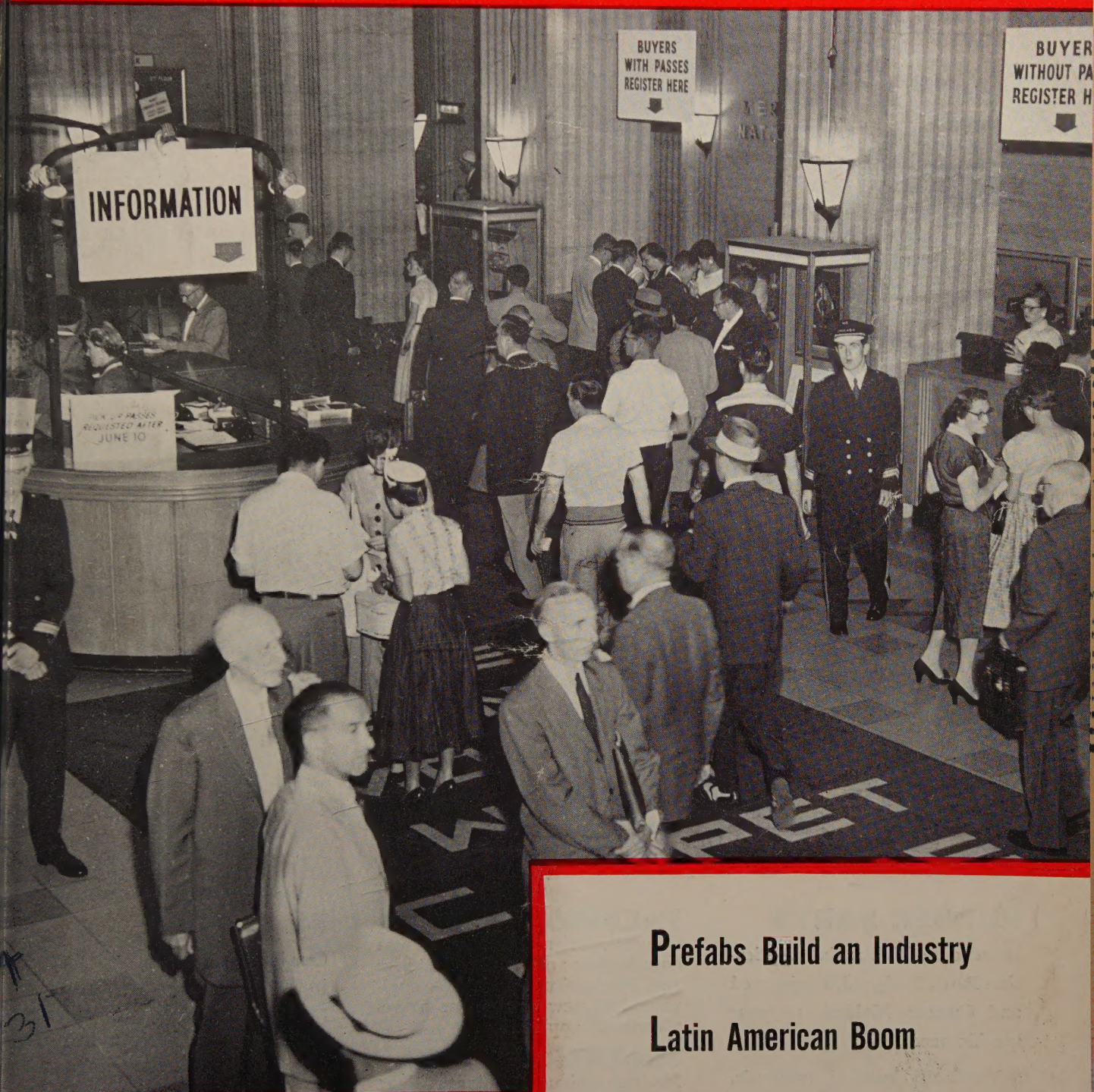


COMMERCE

JULY 1955

35c



Prefabs Build an Industry

Latin American Boom

Saving Muscles and Money

Summer Markets Presage Big Fall Business
(See page 5)



RUBBER PARTS

Hundreds of Industrial Application Parts, Designed, Engineered and Custom Molded, to your specific need.

Scientifically built of Synthetic, Silicone and natural rubber to function with greater efficiency and longer service life.

PACKINGS

Conventional and Special Design type leather and rubber Packings and Mechanical Specialties, engineered to new equipment or replacement application.

LEATHER BELTING

Modern designed Long and Short Center belts for Power Transmission Drives. Investigate our Short Center Belt drives with automatic belt tightening motor bases.

SEALS

Our long and varied experience in the design, development and manufacture of Face and Shaft Seals for most every industrial application makes it possible to build a Seal of NEW and SIMPLIFIED design highly effective in application, no matter how SEVERE your requirement.

Write for further information
or phone MOnroe 6-5050

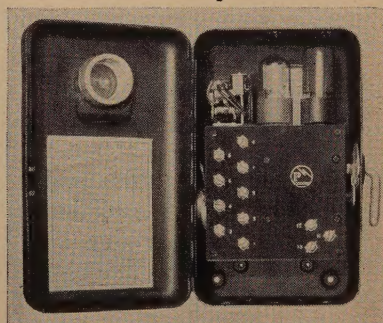
CHICAGO-ALLIS MFG. CORP.
DIVISIONS
ALLIS SEAL • CHICAGO BELTING • ALLIS RUBBER
125 North Green Street • Chicago 7, Illinois

To foresighted plant managers

**WHO ARE AWARE THAT
ELECTRONIC AUTOMATION
IS HERE . . . NOW!**

We are proud to announce that Revere Electric Supply Company has been appointed Chicagoland distributor for the Photoswitch Division of Electronics Corporation of America.

Electronics open the doorway to the future world of automation . . . but for you, *now*, electronic control can mean immediate improved efficiency, faster, cleaner production operations, vastly lowered costs. It will be our policy to maintain thoroughly adequate stocks of electronic controls of all types and capacities. Call or write us . . . for help with your electronic automation problems.



*Chicago's Outstanding
Electrical Wholesaler*

REVERE ELECTRIC SUPPLY CO.

2501 W. WASHINGTON BLVD. • SEeley 8-3636 • CHICAGO 12, ILLINOIS



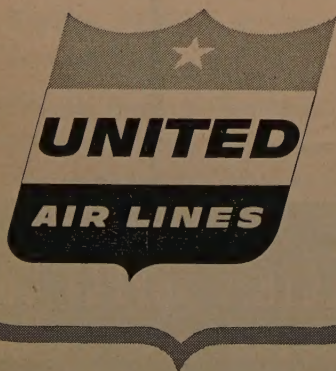
UNITED...
CHICAGO'S OWN
AIRLINE
offers more flights
from this city
than any other
air carrier!



Chicago, (the home of United Air Lines) enjoys some of the finest service along the Main Line Airway. A total of 87 United Air Lines First Class and Air Coach Mainliner flights leave Chicago every 24 hours to 79 cities coast-to-coast, border-to-border and to Hawaii.

Whether it's business or pleasure, make sure you plan your next trip via United Air Lines. Discover for yourself the *difference* when you travel in the Mainliner manner.

Call Financial 6-5700 or an authorized travel agent.



statistics of...

Chicago Business

	May, 1955	April, 1955	May, 1954
Building permits	1,173	1,670	1,061
Cost	\$ 27,640,100	\$ 23,277,400	\$ 29,653,150
Contracts awarded on building projects, Cook Co.	5,403	5,075	2,849
Cost	\$ 166,753,000	\$ 141,087,000	\$ 78,147,000
(F. W. Dodge Corp.)			
Real estate transfers	9,333	7,981	7,509
Consideration	\$ 4,417,000	\$ 4,052,794	\$ 4,928,324
Bank debits to individual accounts:			
7th Federal Reserve District	\$26,175,000,000	\$24,268,000,000	\$22,022,000,000
Chicago only	\$12,927,215,000	\$12,210,890,000	\$11,565,255,000
(Federal Reserve Board)			
Bank loans (outstanding)	\$ 2,875,000,000	\$ 2,941,000,000	\$ 2,845,000,000
Midwest Stock Exchange transactions:			
Number of shares traded	1,789,000	1,908,000	1,426,000
Market value of shares traded	\$ 61,002,912	\$ 72,791,256	\$ 50,546,898
Railway express shipments, Chicago area	821,877	832,068	799,655
Air express shipments, Chicago area	65,996	66,722	55,556
L.C.L. merchandise cars	17,697	18,641	16,876
Electric power production, kwh	1,489,374,000	1,475,424,000	1,338,293,000
Industrial gas sales, therms	14,092,435	14,635,360	12,501,399
Steel production (net tons)	1,915,600	1,844,100	1,558,000
Revenue passengers carried by Chicago Transit Authority lines:			
Surface division	43,564,399	43,451,669	44,929,950
Rapid transit division	9,224,377	9,346,721	8,921,990
Postal receipts	\$ 11,605,951	\$ 12,385,454	\$ 11,310,918
Air passengers:			
Arrivals	372,852	356,766	328,370
Departures	387,280	365,648	336,239
Consumers' Price Index (1947-49=100)	117.2	116.9	117.3
Receipts of salable livestock	441,258	402,493	378,751
Unemployment compensation claimants, Cook & DuPage counties	60,971	48,609	97,508
Families on relief rolls:			
Cook County	28,571	29,645	21,285
Other Illinois counties	15,372	17,474	14,422

August, 1955, Tax Calendar

Date Due	Tax	Returnable to
1	Franchise Tax becomes delinquent and penalties of 1% per month begin to accrue	Secretary of State
10	Withholding tax, Social Security tax, Excise tax for second quarter 1955 if paid by depositary receipt only	District Director of Internal Revenue
15	Last date for depositing in authorized depositary Social Security tax and Withholding tax if sum is \$100 or more and \$100 or more of Excise tax from previous month. Payment should be made to	Authorized depositary
15	Illinois Retailers' Occupation Tax return and payment for month of July	Dir. of Revenue (Ill.)

COMMERCE

Magazine

Published since 1904 . . . by the
Chicago Association of Commerce
and Industry • 1 North La Salle St.,
Chicago 2, Ill. • Franklin 2-7700

July, 1955

Volume 52

Number 6

Contents

The Boom's On In Latin America	By J. Peter Grace	13
Lie Detector Now Works For Business	By Stan Misunas	15
New Tricks In Materials Handling		
Save Muscles and Money	By Phil Hirsch	16
Prefab Home Industry Going Up As		
Fast As Product	By Tom Callahan	18
U. S. Imports Industrial		
Know-How, Too	By Milton Golin	21

Regular Features

Statistics of Chicago Business	2
The Editor's Page	7
Here, There and Everywhere	8
Trends in Finance and Business	10
Industrial Developments in the Chicago Area	29
Transportation and Traffic	33
Stop Me — If	40



Alan Sturdy, Editor

Tom Callahan, Associate Editor

Gordon Rice, Advertising Manager

Published monthly by The Chicago Association of Commerce and Industry, with offices at James and North Cook Streets, Barrington, Ill., and 1 North LaSalle Street, Chicago 2, Ill. Subscription rates: domestic \$3.50 a year; three years \$7.50; foreign \$4.50 a year; single copies 35 cents. Reentered as second class matter June 2, 1948, at the Post Office at Barrington, Ill., under the act of March 3, 1879. Copyright 1955 by the Chicago Association of Commerce and Industry. Reprint permission on request. Executive and Editorial Offices: 1 North LaSalle St., Chicago, Telephone Franklin 2-7700. Neither Commerce nor The Chicago Association of Commerce and Industry sponsors or is committed to the views expressed by authors. Cover design copyrighted.

POSTMASTERS ATTENTION: Copies returned undel labels Form 3579 should be sent to 1 North LaSalle Street, Chicago 2, Illinois.

in this issue...

There's a quiet revolution going on South of our border. It's a commercial uprising and presents a good opportunity for sound investment says J. Peter Grace in his article, page 13.

On page 15, Stan Misunas tells how some companies have put the lie detector to work to help solve some hiring and other problems.

Materials handling techniques and equipment are constantly improving. Read Phil Hirsch's piece, page 16, for a roundup of some of the latest devices.

There's an optimistic report starting on page 18, from the makers of prefabricated homes, who expect their industry to do over a billion dollars worth of business this year.

The article, page 21, by Milton Golin winds up this month's selection of main features. It's the story of one of our little-discussed but widely-used imports, production know-how.

. . .

Our Cover

Will 1955 end up with a new high record year for business or will sales and production taper off this fall? At least one segment of the economy, the household furnishings industry, is confident that business will continue to boom.

The home furnishing folks placed their vote of confidence for the rest of this year at the Summer Home Furnishings Market, which closed July 1, by buying almost as much as they did at the peak summer markets of 1946 and 1947. At that time stores were still trying to build inventories and catch up with the demand created by shortages accumulated in World War II.

Registration of buyers at the Merchandise Mart (pictured on cover) and at the American Furniture Mart, the Chicago headquarters for the semi-annual home furnishings markets, also topped all but the two post war summer markets. Approximately 25,000 buyers from all sections of the country were on hand to see fall styles.



Supervised Protective System

TRAINED WATCHMEN and GUARDS...



CONVENTIONS



CONSTRUCTION PROJECTS



PLANTS AND
WAREHOUSES



SHOPPING CENTERS

Kane can provide you with a complete, uninterrupted watchmen or guard service. Personnel are trained, thoroughly experienced, and fully supervised by Kane officers who cruise assigned districts in squad cars. In addition, the Kane Service

eliminates your personnel problems of hiring individual watchmen, and also eliminates the danger of having a single isolated man alone on the job. Kane Watchmen and Guards are smartly uniformed and the service includes insurance coverage, social security, unemployment taxes, and overtime.

Write for FREE Illustrated Booklet

or telephone MOhawk 4-6181
for complete information.

KANE SERVICE

510 North Dearborn Street
Chicago 10, Illinois

The Editor's Page

Socialistic Grab

A new study by the Council of State Chambers of Commerce contains some blunt words about a bill in Congress calling for federal construction of a high dam on the Snake River at Hells Canyon on the Idaho-Oregon border. If the bill is passed it will be the biggest step taken toward socializing electric power in the United States since the federal monopolization of power in the TVA area.

The study shows that the Hells Canyon bill would necessitate a federal expenditure of \$465 million to develop 785,000 kilowatts of power. But the Idaho Power Company, which has been seeking to develop the Snake River since 1947, has another plan calling for the construction of three smaller dams with a generating capacity of 770,000 kilowatts at a cost of \$133 million to \$195 million. A Federal Power Commission examiner, after extensive hearings, has recommended that this publicly regulated, taxpaying utility company be authorized to proceed.

The cost figures are only half of the story. If the company develops the power sites it will finance the work by selling securities publicly. It will be a normal-self-sustaining business operation.

But if federal development is allowed to supersede the company plan, the U. S. treasury will be tapped for \$465 million, or \$9 for every taxpayer in the country.

Modern Capitalist

"Ownership of industry is being rapidly democratized — diffused throughout the population," said Henry Ford II in a speech before the American Newspaper Publishers Association. "More and more white- and blue-collar workers own more and more of the business firms for which they work, through profit-sharing plans, direct stock ownership or indirectly through a wide variety of pension and retirement funds."

Mr. Ford then went on to list some of the other great changes that have taken place in the capitalist system, including the emergence of the professional manager, the greatly expanded role of government as a moderator or referee, and the development of private and governmental social security systems. Then he made the interesting suggestion that "we look upon capital not as accumulated wealth or goods but as the productive power potential stored up in machinery. . . . By studying the distribution of horsepower among our people, we can perhaps learn something new about American capitalism and just who controls the real wealth of our country."

Excluding military use, this country has at its command something like 6,250,000,000 horsepower, in machines ranging from the biggest electric generators to small home appliances. That works out to about 40 mechanical horses for every man, woman and child in the country.

Impressive as this is, the way the horsepower is owned

is even more impressive. Industry and agriculture own about 1,500,000,000. State and municipal governments have a small amount — around 75,000,000. What Mr. Ford calls "home capitalism" — everything from the family automobile to electric razors — accounts for the largest amount by far — 4,700,000,000 horsepower. To quote him, "I submit that when you find people possessing many times more capital goods than industry; when you find that industry itself is being owned by ever greater numbers of the people; and when you see the opening to all Americans of new horizons of comfort and pleasure and experience which short years ago were available only to the very well-to-do, then you've just got to conclude that our system is, after all, being run for the benefit of the capitalists — all 160,000,000 of us!"

Mr. Ford also observed that antagonism to the distribution businesses has crept into our thinking, and that retailers, salesmen and others are sometimes accused of being economic parasites. "We speak often," he said, "of the 'high costs' of distribution. Seldom do we think in terms of value added by distribution. It is obvious that the whole distribution process, including advertising, promotes more consumption, more production and more employment. In so doing it effectively lowers costs and adds to the value of the goods. . . ."

Atoms For Peace

On August 8 at Geneva, Switzerland, a unique international "trade show" will open. On that day, the United Nations Conference on the Peaceful Uses of Atomic Energy will get under way for a two-week session and the world will be given its first comprehensive view of the progress that has been made in non-military applications of atomic fission.

Our government is ready to make new revelations concerning its activities in the atomic field. American industrial companies are slated to show a complete line of their nuclear equipment. Britain and Russia are readying exhibits to show the full extent of their progress. In addition, Canada, Switzerland, Belgium, The Netherlands, France, West Germany, The Scandinavian countries and Italy will exhibit.

Although a layman would undoubtedly find it impossible to understand much that will be shown at this conference, it is not hard to glean its basic significance. It is the opening maneuver in the international competition for world markets for nuclear reactors and nuclear equipment for peaceful use. Every American naturally will hope the United States takes the lead right from the start. But no matter which nation gets the initial edge, or which ultimately wins the lion's share of the business, it is the one kind of war from which people around the world will all benefit.

Alan Sturdy

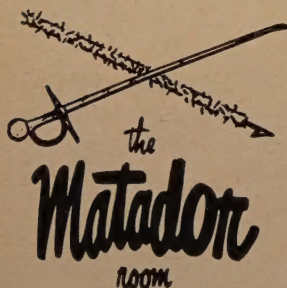


*The Steak is the
Star of the Show*

SIRLOIN ROOM

"where the steak is born"

World's finest steaks are the star of the internationally famous SIRLOIN ROOM. Displayed on a throne of ice, this royal treat is yours to select and brand . . . and have it custom broiled to your taste.



The ritual of the bullfight is a work of art. Now a gustatory and aesthetic pleasure is yours to enjoy in The Matador. Continental cookery at its finest.

PRIVATE FACILITIES

for sales meetings, banquets, wedding parties are available in The Stock Yard Inn. Complete accommodations for groups of 20 to 5000.

Stock Yard Inn

42nd and HALSTED STREETS
TELEPHONE YARDS 7-5580

"12 Minutes From the Loop"

Here...There... and Everywhere

• **Golden Anniversary** — The employe publication of Illinois Bell Telephone Company is celebrating its golden anniversary. It was first published in May, 1905, and is believed by company officials to be the oldest employe publication in the Chicago area.

• **Soup to Nuts** — Besides such conventional things as machine tools, electronic items, coal and automobiles, the Argonne National Laboratory's shopping list includes grasshopper eggs and undertaker's gloves. The eggs are used in biological and medical research along with white mice and hamsters. The gloves were purchased as the answer to a request for an inexpensive, light-weight glove which would allow a very sensitive touch.

• **Daily Purchases** — Every 24 hours the American consumer buys 10,500 refrigerators, 9,700 washing machines, over 2,000 clothes dryers, 3,000 freezers, nearly 10,000 ranges and 9,250 water heaters according to Roy C. Ingersoll, president and chairman of Borg-Warner Corporation.

• **Why Mergers?** — A recent government survey shows that two out of five corporation mergers and acquisitions are made to gain additional capacity; one in four to diversify products; and the remainder to gain sources of supply, make ultimate sales to consumers, or gain additional capacity in new markets.

• **The Toll Market** — American motorists pay a fare, or toll, to use 36 roads, 153 bridges, 8 tunnels and 233 ferries in the United States. Total fares collected in one year amount to more than \$200 million.

• **Wins Award** — "This Is the Midwest," the television program produced jointly by the Chicago Association of Commerce and Industry

and Columbia Broadcasting System, won the annual award of The Chicago Federated Advertising Club as the best documentary-type program of the 1954-1955 television season. The show was sponsored by the Harris Trust and Savings Bank of Chicago.

• **Income Tax Errors** — Income taxpayers made mistakes in arithmetic totaling \$95.8 million in the 1954 fiscal year. The Internal Revenue Service caught errors in tax returns which resulted in payments of \$18.5 million more than due and that sum was refunded. However, it also caught mistakes by taxpayers in their favor which added up to \$77.2 million, and bills for payment were sent out.

• **Export-Import and Jobs** — It is estimated that some 4.3 million jobs in the U. S. are attributable to work generated by imports and exports. The U. S. has become the world's largest trader, accounting for about 15 per cent of the world's total imports and about 20 per cent of its exports. The farm production of one out of every ten acres is consumed outside the United States. Farmers sell foreign countries from 25 to 35 per cent of their wheat, cotton, and tobacco. Fifteen per cent of the production of motor trucks and buses, 13 per cent of farm machinery output, and 10 per cent of all U. S. machine tools production are sold abroad.

• **Complete Automation** — A concrete mixing plant requiring no manual labor at any point in the process has been placed in operation by Cleveland Builders Supply Company. By the use of punched cards and electronic controls, it can turn out ready-mixed concrete under any one of some 1,500 mixing formulas. Belt conveyors carry the materials to storage bins, from which the electronic controls direct them to the

mixer as needed. The controls system was engineered by Fairbanks, Morse Company.

Public vs. Private Schools — The U. S. office of Education lists 1,350 degree-granting colleges and universities. Of this number 360 are tax-supported. Although the privately-supported institutions outnumber the state colleges and universities almost three to one, more students attend the tax-supported colleges than the private institutions. The outlook: bigger enrollments for the tax-supported schools.

Add Public vs. Private Schools — Dr. Robert E. Wilson, Chairman of the Standard Oil Company of Indiana, recently told of a study of 13,500 business executives, which disclosed that 88 per cent of them had a college background, and that 71 per cent of this group had been educated at independent, privately-supported institutions.

Exit Tin in Tin Cans — Motor oil, anti-freeze, dry foods, detergents, insecticides, waxes and pharmaceuticals now come in tinless "tin" cans. Within another decade, say the tin can experts, almost all metal cans produced in this country will be made without any tin content.

Bang-up Year — Voluntary accident and health insurance plans paid record \$2.8 billion last year for doctor, hospital and other medical bills and for loss-of-time benefits. That's \$300 million more than was paid in 1953.

Two-car Families — About 7.5 million American families will own two or more cars by 1960, according to L. Walter Lundell, head of Universal C.I.T. Credit Corporation, an increase of 3 million over the present number.

Long Term Advice — What kind of training would a successful businessman recommend for the college student who plans to enter business after graduation? Despite the heavy demand for engineers and scientists, the consensus of a group of businessmen visiting Yale University recommends a liberal arts background.

Quick as a Wink — In the time it takes the average reader immersed in the best-seller to turn one page, the
(Continued on page 37)

Meet an Important Member of our family



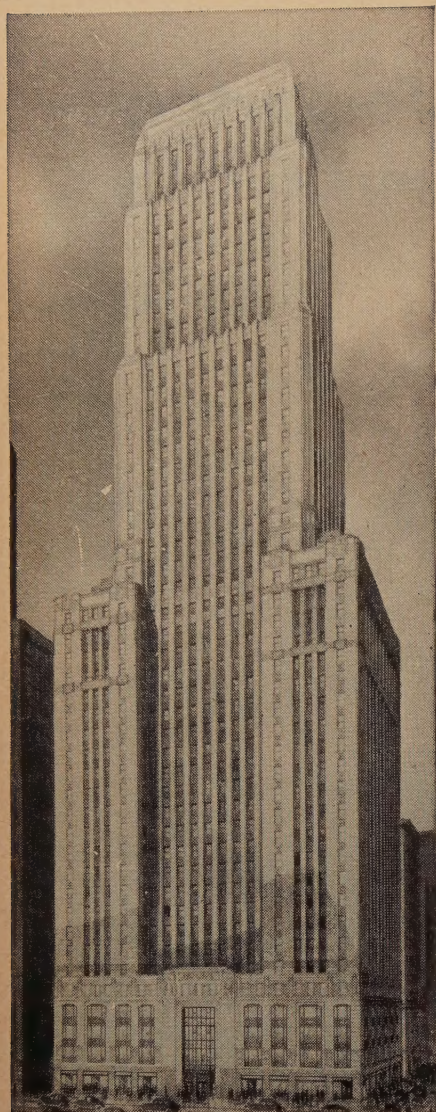
It's a segment of ROCK

ISLAND rail. Under it is a smooth, perfectly ballasted roadbed. Over it speed the ROCKET FREIGHTS, drawn by powerful diesel locomotives.

There are thousands of miles of such rail in the territory served by the ROCK ISLAND lines . . . a steel network that facilitates the movement of freight to and from most mid-west cities of consequence in 14 prosperous, mid-continent states.

When you have shipments coming into or going out of ROCK ISLAND territory, we'd be glad to tell you specifically how our service will help you. See our nearest representative for up-to-the-minute freight information.

ROCK ISLAND LINES
THE ROAD OF PLANNED PROGRESS



One La Salle Street

Here, at the center of Chicago's financial, life insurance, legal, and commercial activities, skill and expert scientific planning have created a modern business setting of outstanding distinction. The many prominent tenants of this great building appreciate not only this factor of central location, but also the high standards of service maintained for their comfort and convenience, making One La Salle Street an address of prestige. For all who seek downtown office space, the special advantages afforded at One La Salle Street are worthy of first consideration.

L. J. Sheridan & Co.
Management Agent

One La Salle St., Chicago - ANdover 3-7457

Trends . . . in Finance and Business



• **The Insurance Picture** — At the start of this year, American families owned 237 million life insurance policies, representing aggregate protection of \$334 billion, according to the Institute of Life Insurance. This was an average of \$6,300 per family compared with a family average of \$3,100 ten years ago. Today's 93 million policy-holders is an increase of 23 million over the number in 1944.

Employee group insurance amounted to \$86.4 billion at the start of 1955, three and one-half times the figure of ten years ago. Over the same period pension plans and the number of people covered tripled. The number of insured pension plans in force at the start of this year was 17,280, covering 3.9 million people.

Annuities have increased materially in this same period. The 4.8 million in force January 1, representing \$1.8 billion of potential annual income was about double the 1944 figure. Life insurance to protect installment buying amounted to \$10.2 billion outstanding at the start of this year, 35 times the figure in 1944.

• **Apparel Industry** — In 1954, 60 per cent of the large department stores showed a net profit increase over 1953, and 15 per cent of these were earning a net return of four cents or more on the dollar after taxes, according to a Dun and Bradstreet report.

Among apparel specialty shops with sales of \$300,000 to \$1 million, 55 per cent showed a profit increase over the previous year, and 19 per cent made a net return of four cents or more on every dollar of sales. Of the larger specialty shops in the \$1 million to \$3 million range, 65 per cent showed a profit increase over the year before and 15 per cent real-

ized a net return of four cents or more on the dollar.

The number of retail apparel failures for the first quarter of 1955 was about eight per cent higher than the 1954 first quarter, but dollar liabilities were actually below the 1954 figure. This compares favorably with the first quarter rate last year when failures were running 35 per cent over 1953. In 1954, the failure rate per 10,000 operating concerns by type of outlet was: 106 infants' and children's wear, 88 women's ready-to-wear, 82 men's wear, 55 shoes, 51 women's accessories, and 33 dry goods and general merchandise retailers.

• **Boost Jobless Pay Benefits** — The District of Columbia and 23 states have increased weekly maximum jobless-pay benefits since the first of the year, according to a state-by-state survey of current unemployment legislation by Commerce Clearing House.

The average weekly amount available to the unemployed under the new schedules in these states is \$30.79 compared with \$26.27 allowed previously. Weekly benefits now range from a low of \$20 in Texas to a high of \$50 in Nevada.

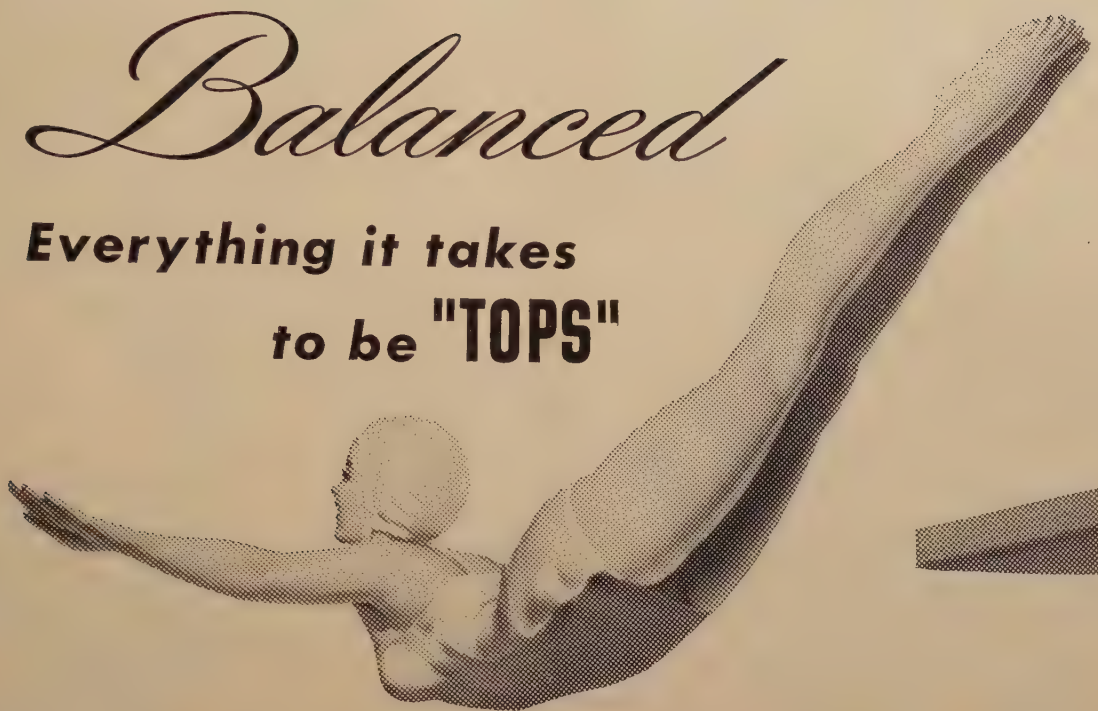
Seven other states have higher rates in various stages of enactment. Among these is a new law in Michigan which would increase the present maximum benefits from \$42 to \$54 a week, which would make it the highest in the country. Texas, New Jersey, Wisconsin, Illinois, Massachusetts and Ohio also have bills under consideration and could be acted upon before their sessions adjourn.

• **The Year 1975** — Predictions of things to come in the next 20 years

(Continued on page 39)

Balanced

Everything it takes
to be "TOPS"



STANDARD GASOLINES

balanced for top power, economy, and all 'round performance ...
and raised to the Highest Octane levels in our history

High octane is mighty important—and Standard's new gasolines, WHITE CROWN and RED CROWN, have been raised to fulfill the anti-knock requirements of modern high compression cars—and older cars, too. But important as octane is, good gasolines need something more . . . they must be balanced to give you controlled volatility—the right gasoline for the right season; prevent vapor lock in hot summer weather; and give you all 'round smooth, efficient, economical performance.

Try a tankful of one of these clean-burning, efficient gasolines today and prove to yourself that there is a difference in gasolines.

You expect more from



and get it!



Inexpensive Indian fabrics are still hand-loomed in Latin America

Photos: W. R. Grace and Company

The Boom's On In Latin America



Ford Motor Company plant in Brazil

Tremendous progress has been made South of our border in the past decade, but it's only the beginning, says this expert

By J. PETER GRACE

WHEN people think of United States companies operating in Latin America, they usually think first of mining companies in Chili and Peru, or oil companies in Venezuela, fruit companies in Central America, or sugar companies in Cuba.

This picture of Latin America is certainly understandable. Traditionally, Latin America has been our leading supplier of raw materials and foodstuffs. During World War I Latin America supplied 75 per cent of the crude foodstuffs and 40 per cent of the raw materials and semi-manufactured goods which our country imported. In addition, approximately 30 of the 77 items on our stockpile list of strategic materials are imported from this area.

However, the Latin American people will not be satisfied with a raw material economy, nor with its corollary, a one-crop economy. They want to produce goods which will raise their standards of living. More and more of them want better

homes to live in, better clothes to wear, better food to eat, better medicine for their children and families.

It is this great and powerful drive, these aspirations, on the part of the Latin American people for a better life which gives their countries the very dynamic quality they have today.

Vitality Indicator

Of course, a major indicator of an area's vitality is its birth rate. Latin America's population increase of about 2½ per cent a year is greater than that of any other major area of the world. In the United States the increase is only 1½ per cent. It has been estimated that, should present rates continue, the population of Latin America may be twice that of the United States and Canada together by the turn of the century—more than 500 million people.

The combination of this tremen-

dous demand for self-improvement and an exploding population provides a ready-made market. One thing an investor in a new business in Latin America does not have to worry about is a constantly growing market for his goods. The market is there, ready for him, and growing continuously.

Per capita consumption in Latin America increased 26 per cent from 1945 to 1953. It has been projected to increase another 50 per cent from the present level by the mid-1970's.

The major markets in Latin America are in the cities and the cities are growing almost twice as rapidly as the total population. For example, between 1940 and 1950 the population of 23 of the largest cities in Latin America rose 45 per cent compared to 25 per cent for the entire area.

This increasing urbanization coupled with rising living standards is leading towards the emergence of



Burros still cart Coke to more remote sections of Latin American tropics



High speed equipment in Coca-Cola plant, Barranquilla, Colombia



Modern Sears, Roebuck and Company store, Santos, Brazil

a middle class in the cities of Latin America.

Apartment houses and suburban developments, heretofore unknown, are now the coming thing in Latin American cities. A greater market is developing for washing machines, radios, television sets, refrigerators, and dish washers. In addition the development of a middle class is bound to produce greater economic and political stability which in turn strengthens the basis for investments.

When Sears, Roebuck and Company started looking at estimates of effective buying power in Mexico City, the first of seven cities in Mexico in which Sears now has stores, some people thought that potential customers would be limited to the upper five or ten per cent of the city's population. Actually, the customers that Sears has developed now represent a fair cross section of at least the upper 50 per cent of the economic groups of Mexico City and more than one-third of its sales are made on credit.

Sears in Mexico

When Sears entered Mexico, it discovered that one of its principal problems was to teach many small suppliers the requirements of doing a real production job. Sears now works with over 1,300 Mexican suppliers ranging in size from a two-man craft shop to a modern factory employing more than 1,000 people.

Whereas Sears originally estimated that it would import about 70 per cent of its merchandise from the United States, it now is able to buy in Mexico 80 per cent of what it sells there, most of which conforms to U. S. styles and standards.

Typical of what a great company like Sears has been able to do in Latin America is the case of Acros, a Mexican firm making stoves and hot water heaters. Since coming to Mexico, Sears has worked very closely with Acros. As a result of this close teamwork, Acros has grown from a 40-man concern to an expanded and still expanding firm employing 400 men.

In Brazil, Cuba, Venezuela, and Colombia, Sears has encountered many of the same conditions and met them just as successfully as it did in Mexico. The same will be

(Continued on page 25)

Lie Detector Now Works For Business

Device long used in criminology can eliminate
bad employe risks and solve pilferage cases

By

STAN MISUNAS

A DISTINGUISHED looking executive nervously perspired as he answered the slowly paced, methodical questions of the polygraph lie detector examiner. He was being considered for a top position with a chemical processing plant at the comfortable salary of \$15,000 a year. The lie detector test was a routine examination, part of a pre-employment screening program which the firm used to test all new employes.

After 45 minutes of testing, the examiner paused to tell the executive, "Look, the test shows you've answered to three-fourths of the questions so far. Do you want to continue the examination or would you rather just tell me the rest of the story?"

The well-groomed man smiled calmly and replied in a cultured Boston accent, "Might as well. Looks like I can't beat that machine of yours. I know when I'm licked."

False Application

As he slipped on a well-tailored jacket, he spoke casually of his past, and present. Although he had fooled the chemical firm completely with his disarming personality, he told the polygraph examiner that he had falsified his application through and through; had a prison and arrest record dating back to the early 20's; had been fired from several well-paying jobs for stealing; and was, in his own words, a "hopeless alcoholic."

How could a man with a record like that bluff his way through so successfully? "It's not so tough for a smooth operator," points out the polygraph examiner who conducted the test.

"Many employers are captivated by a person's poise, carefully culti-

vated conversation style or allegedly impressive background. Some employers, priding themselves on being good judges of character, don't bother to look any further into a man's personal history until he has bungled a big assignment or heavy losses crop up. Then, of course, it's too late.

"We can find out more about a man in 45 minutes using the polygraph machine than most employers can learn in five years."

More businessmen each year are turning to qualified private agencies offering polygraph employe examination service in a three-pronged attack aimed at eliminating bad employment risks, clearing up pilferage mysteries and discouraging employes from getting sticky fingers.

One Chicago agency reports that it had conducted only 80 industrial tests in 1954, but through the month of April of this year it handled more than 400 such cases. Another agency says that so far this year it has handled 300 per cent more cases than last year.

Polygraph examiners hesitate to guess how much their service is cutting down employe pilferage; but they're convinced that if figures were available on such losses they would be almost astronomical.

In cut and dried cases, where specific amounts of money have been recovered or losses cleared up, the figures are more revealing. Take the case of a large hardware manufacturing firm in the Midwest which had lost about \$45,000 in two years through unexplained inventory shortages. After the firm conducted its own sleuthing, it was convinced

that one employe, an ex-convict, was responsible. The employe, however, pleaded his innocence so strenuously that the firm ordered a lie test. The suspect subsequently was cleared of theft charges, but it was disclosed that he was withholding information about these thefts.

The firm then ordered lie tests for its entire staff and learned that 17 employes were involved in a complex theft ring that penetrated the sales department, loading dock crews, and delivery drivers. All of the guilty employes were fired and the losses stopped immediately.

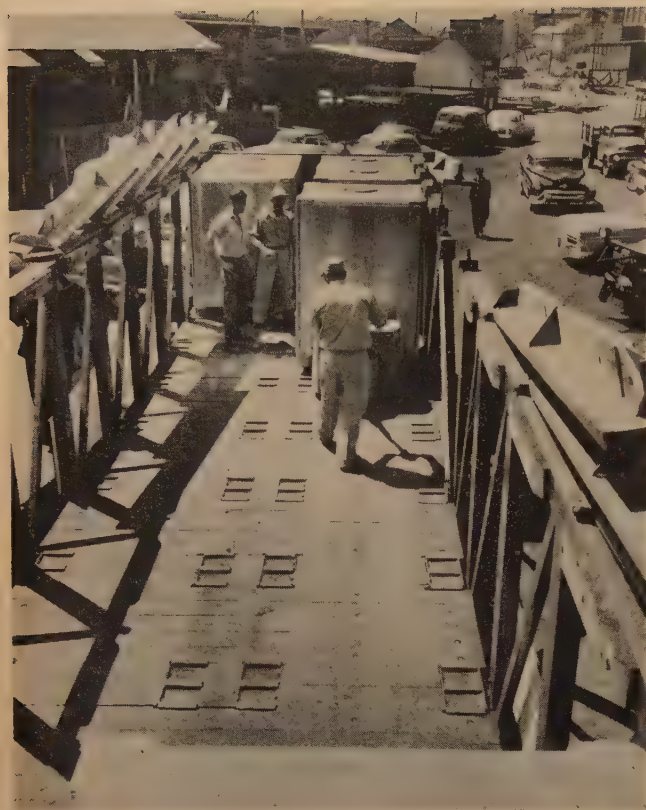
Different Solutions

Some companies, however, have solved their problems in a different way after lie tests turned up evidence of dishonesty. One midwestern laundry, for instance, was completely and thoroughly shocked to learn that three out of four of its employes admitted stealing customers' garments. Nearly all of them told management they stole clothing because they weren't paid enough.

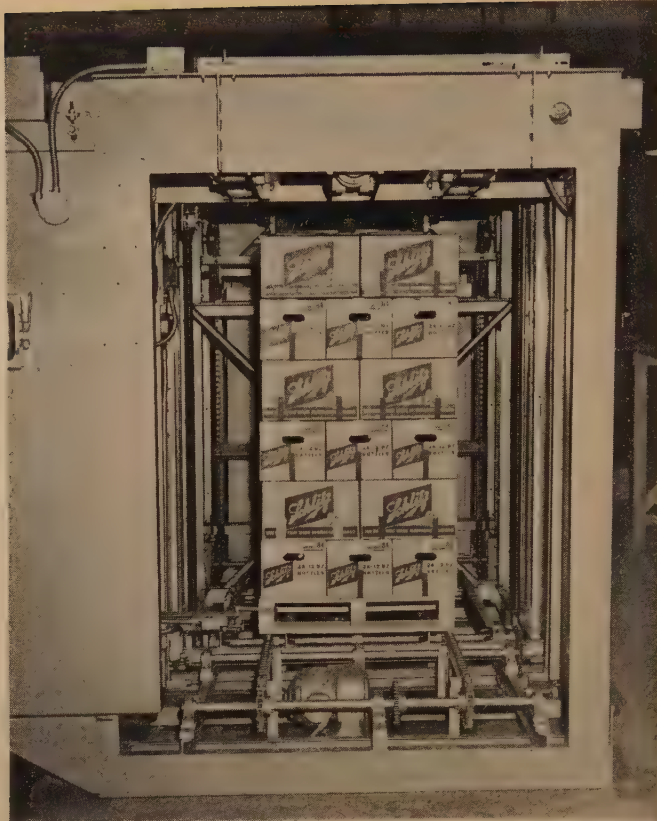
Management, red faced and reeling, gave the entire plant a blanket raise in pay. When routine tests were conducted six months later, the theft rate had dropped to nothing.

Another firm learned that nearly half of its employes were stealing company products for spite. They didn't like their jobs and blamed management for their dissatisfaction. In this case again, no one was fired. Instead, each employe was interviewed, invited to get his gripes off his chest and was promised that steps would be taken to give him the job he wanted wherever such

(Continued on page 37)



Equipment designed especially for the job facilitates shipment



Cartons coming out of automatic pallet loader ready for shipment

New Tricks In Materials Handling Save Muscles and Money

By PHIL HIRSCH

WITHIN the next few years, production methods in this country are going to be changed pretty drastically. Automation, from its beachhead in the metalworking and chemical industries, is spreading out. In the process, the job of moving materials to and from machines, largely a matter of muscle before the war, is becoming largely a matter of mechanics.

The change in materials handling technique and equipment isn't coming all at once. In fact, it's pretty hard to see unless you look at the overall picture.

Few eyes bulge when a corrugated boxmaker, for example, replaces hand trucks with a tow conveyor system. No fork lift truck manufacturer acquires the mantle of immortality for developing a new attachment that handles oil drums more efficiently. But, if you follow these devices into the plant and watch

what they do to material handling operations, it soon becomes obvious that automation is on the march. In a multitude of "little" ways, the basic means of moving toys and tractors, ashtrays and ashcans, through fabrication and assembly, is undergoing a quiet revolution.

Some Recent Devices

Look closely at a few of the recently developed materials handling devices and you'll see that, as far as some jobs are concerned, automation is no farther away than across the street waiting for a traffic light to change. One of these devices is the operatorless industrial tractor. Guided solely by an overhead trolley wire, the tractor moves throughout the plant. It couples and uncouples

loaded flatbed trucks automatically, even charges its storage batteries without human aid.

Automatic devices for carrying production within the plant are nothing new, of course. Those same flatbed trucks, hooked to a chain imbedded in the factory floor, are just one example of older techniques for turning the same trick. But the new trolley tractor represents an important step forward. Here's why:

Imagine that you own a warehouse, and you want to send your loaded flatbed trucks into an additional area of the building. With a chain-in-the-floor conveyor line, you'll need an electrically powered switch to direct the trucks from the main line onto the branch, plus so many additional feet of chain. Cost of the former will be \$2,500-\$3,000;

the latter, \$20 per foot, approximately. In addition, the floor will have to be torn up, probably disrupting operations. Using the trolley tractor, the branch line will cost 10 cents a foot, the switch \$75; and there won't be any major construction involved.

Inevitably, this price differential is going to bring automation to a lot of intra-plant moving jobs that now require muscle power. A likely spot is on freight loading docks, where loaded trucks are brought in automatically, but must be moved by hand short distances to the freight car or highway truck. Another is within a production department; from machines to temporary storage, for example, most tow truck conveyor systems, to date, have been built between departments.

Another sign of the times is what might be called the "party line" pneumatic tube system. Pneumatic tube communication, a relatively recent addition to many plants in itself, has now been improved to the point where one loop of tubing can be hooked up with 200 or more drop-off points and the message automatically routed to any one of them. Routing is accomplished by metal rings around the outside of the pneumatic carrier which hit electric contacts at the drop-out point. By varying the position of these rings on the carrier, its destination is changed.

Advantages of System

Big advantage of the party line pneumatic tube system is that messages don't have to be routed through a central point, which may be out of the way in most cases. Also an attendant isn't required to transfer messages from one set of tubes to another. And, on large systems, instead of having a separate set of send and receive tubes running to each drop, only one set connecting all of them is needed, which cuts down considerably on the amount of tubing required.

Pneumatic tubes, even the conventional variety, are already saving a good many plants a good bit of time and money. At Stone Container Corporation, Chicago, where a system was installed last December, officials credit it with an 80 man-hour per week drop in communications time. At American Thread Company's Sevier, North Carolina mill, pneu-

matic tubes have taken over the duties of between one and two messengers. Not only paper work shuttles through the tubes; cash, shop drawings, lab samples, small tools, soft drinks, desk supplies, and small castings are a few of the other items.

Automation has also come to the lowly storage rack. The new version looks much the same as always, but instead of shelving, it has a line of conveyor wheels on which the stored items ride. As an operator withdraws a unit from the front of the rack, gravity automatically moves up those in back.

The conveyORIZED storage rack drastically cuts the amount of warehousing space required. For now, only an aisle at front, for loading, and back, for unloading, are needed;

interior aisles are eliminated. Since the goods in storage move to the operator, instead of vice versa, replenishing supplies from stock takes much less time.

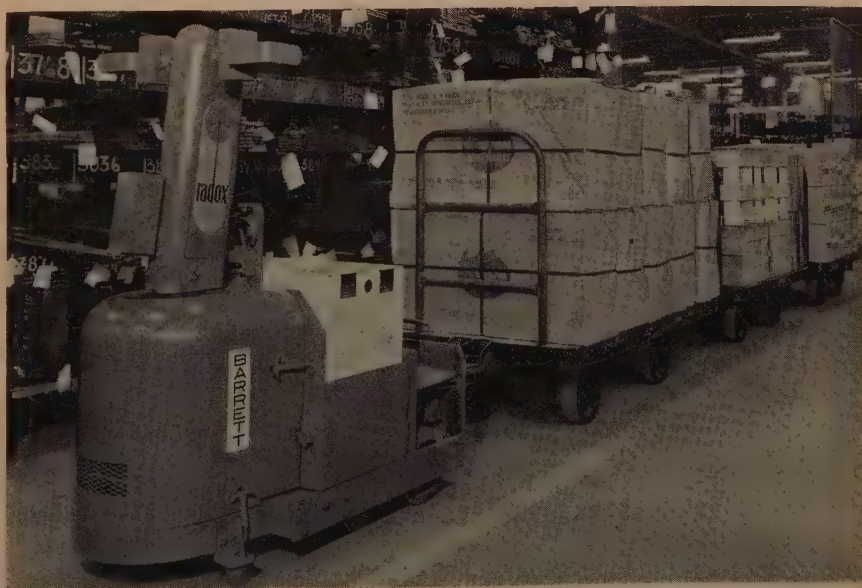
A similar reduction takes place when supplies are put in stock, since part of the movement is accomplished automatically. The rack also eliminates clogged storage aisles, provides a quick, visible check on inventory, and guarantees that the first item in is the first one out, particularly important where perishable goods are involved.

Thanks to the conveyORIZED storage rack, three men are currently packing 900 orders an hour at a cracker bakery, a job that took eight men the same length of time pre-

(Continued on page 27)



ConveyORIZED storage rack: stock goes in one end, out the other



An electronic operatorless industrial tractor

Prefab Home Industry Going Up As Fast

Houses built in 30 minutes, erected in day; 1955 production expected

WITH its awkward period of adolescence behind it, prefabricated housing has acquired the maturity and self-assurance of a major industry.

Back in 1946, prefabrication accounted for only two to three per cent of all housing starts. Last year

it was seven per cent and this year it should be ten per cent according to the Prefabricated Home Manufacturers' Institute; and this year the total number of all types of single dwelling units constructed should top 1.2 million units, double the 1946 total.

A survey of the industry shows a booming business.

National Homes Corporation, Lafayette, Indiana, conceded by all to be the giant of prefab producers, is in the midst of an expansion program that will boost its production capacity from 140 to 290 homes a day. Modern Homes Corporation, Dearborn, Michigan, has increased its production 33 per cent from 1,200 homes annually to 1,800. Scholz Homes, Inc., Toledo, Ohio, has announced plans for a three-fold expansion program which includes a new plant just west of Chicago. United States Steel Homes, Inc., the housing subsidiary of U. S. Steel Corporation, is putting the finishing touches on expansion that will double capacity at its plant in New Albany, Indiana. Richmond Homes Inc., Richmond, Indiana, is stepping up its output by 70 per cent with the addition of new facilities.

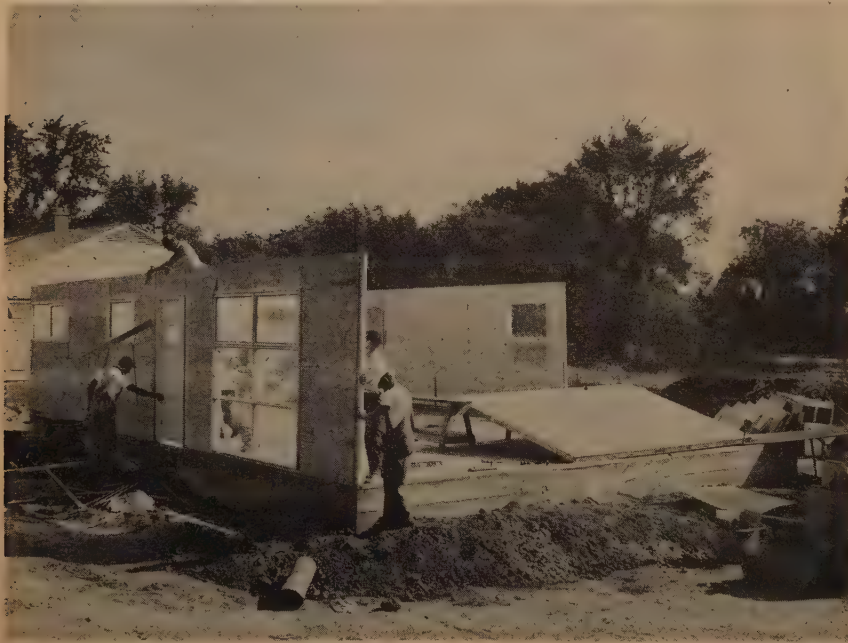
Produce 77,000 Homes

As a whole, the industry produced 77,000 homes in 1954, 34 per cent more than in 1953. Figuring the average price of prefabs for 1954 at \$10,000 each — considered to be conservative — gives the total production a value of a whopping \$770 million.

This year's output, if the first quarter rate of production is maintained, should retail well over the billion dollar mark. During the first three months of 1955, industry production was 62 per cent ahead of the like period of 1954.

U. S. Steel's experience at its Meadowdale subdivision near Elgin, Illinois, is typical of success stories offered by the prefab makers:

In Meadowdale, U. S. Steel through its builder-dealer will put up 1,100 three- and four-bedroom prefabricated homes selling for approximately \$12,000. Six models



A National Homes Corporation House being assembled at site



An occupied National Home in Barrington Woods, Barrington, Illinois

As Product

to top 100,000 homes

By

TOM CALLAHAN

were put on display on the site late in April. The first day 12,000 people toured the homes in a six-hour period starting at noon. Forty families purchased homes that opening day and 125 were sold in the first week.

National Interest

This interest is not just a local thing. U. S. Steel had a single commercial on its national TV show offering a booklet about its homes and received 60,000 requests for copies.

A Chamblee, Georgia, builder for American Houses, Inc., New York, N. Y., sold 22 three-bedroom homes in one week, all that he had room for on his available lots. A Charlotte, N. C. builder-dealer sold 21 four-bedroom houses by showing one completed model and claims an additional 1,500 "good prospects" for future building.

James R. Price, President of National Homes, reports that his firm's biggest dealer in 1954 built and sold over 800 prefabricated houses. Many national dealers sold over 100 units last year. Government statistics show that 95 per cent of all builders in the U. S. build and sell fewer than 50 houses a year.

Despite their steady growth and increased consumer acceptance, prefabricated house producers are still plagued with their original trouble, difficulties with building codes. There are as many different codes as

the Value line Windsor of Modern Homes Corporation



A finished prefabricated home produced by American Houses, Inc.



Three-bedroom Coronado style U. S. Steel home at Meadowdale near Elgin, Illinois



there are cities. They're largely compilations of "rules of thumb" and "accepted practices" which were made long ago. Many codes contain rules specifically designed to protect local interests and exclude outsiders.

Such restrictions have held back many technological advances, reports PHMI, and have kept the consumer from benefiting from the full economy of mass production. Prefabricators have not been able to hang doors, glaze windows, and spray paint the walls in cases of houses shipped into some cities. Only a few companies pre-wire their house panels because of the wide variations in electrical requirements. Some of the companies offer prefabricated plumbing packages which may save \$400 or so in the cost of the completed house. They have been able to ship this package only to their dealers in small towns and in outlying areas.

While the PHMI reports progress is being made in changing the building codes of some cities, most of the sales of prefabs are in outlying districts where there are no codes or in new developments or "villages."

National Homes, for example, reports that 80 per cent of its production goes to new developments.

The industry is relying on time, consumer acceptance, and an education program to sell the performance value of prefab construction. Manufacturers are submitting their units to government tests and to tests of various construction agencies across the country to prove the performance of the prefab. One manufacturer points out that the walls of his house are built three times stronger than required by the performance standards of the U. S. Bureau of Standards and the roof can bear a weight equal to 14 feet of snow.

Not Always So

But it wasn't always so.

"The industry got off to a pretty limping start and for years went nowhere in particular," admits General O'Brien, the retiring president of PHMI. "After the war, a lot of prefabricated housing was terrible. Anybody who had a few dollars and a rented building went into the business. The industry has had a hard

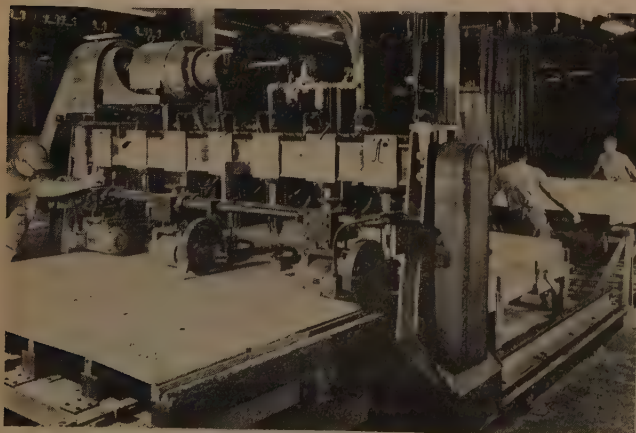
time living down the deplorable results of that period."

Much of the "living down" of the industry has come about by hiring professional designers and architects to give the prefab "home appeal." The 1946 prefab was box-like in shape and cost about \$6,000. Today's prefab comes in many shapes and heights and ranges in price from \$6,000 to \$60,000. The PHMI breaks down 1955 sales this way: \$6,000 to \$8,000, 25 per cent; \$8,000 to \$12,000, 50 per cent; \$12,000 to \$20,000, 20 per cent; over \$20,000, 5 per cent.

National Homes, which expects to produce 30,000 prefabricated homes this year, ranging in price from \$6,000 to \$40,000, offers 30 floor plans and more than 200 exterior designs. Pease Woodwork Company, Hamilton, Ohio, offers 22 L-shape, T-shape, rectangular and contemporary 2, 3 and 4-bedroom homes. Inland Homes Corporation, Piqua, Ohio, lists over 50 different exteriors and elevations in its 1955 catalog of homes.

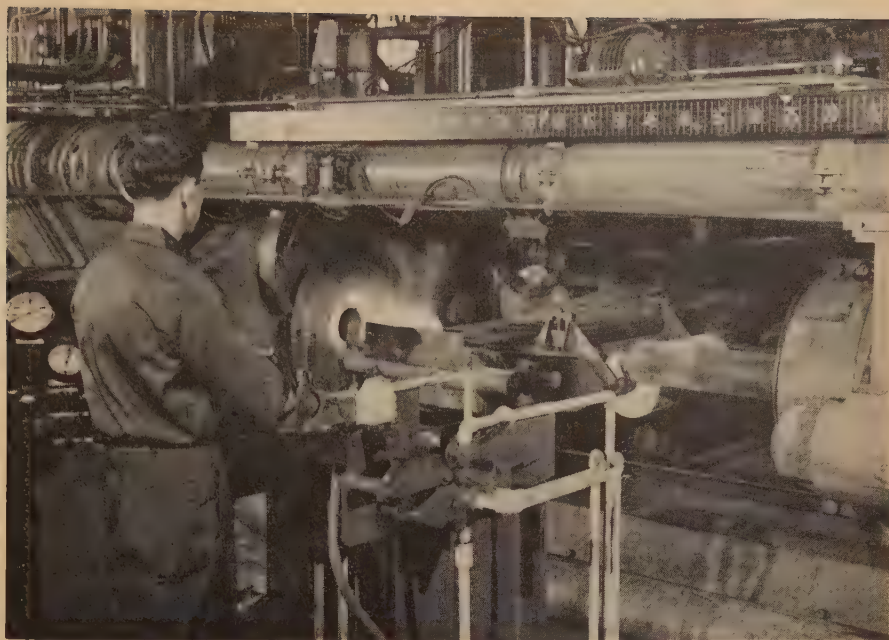
Besides a wide range of color schemes most manufacturers are also

(Continued on page 34)



Upper left: sheathing placed on framing; lower left: automatic nailer fastens sheathing to framing; upper right: routing out holes for door hardware, lower right: the tenoner saw at National Homes plant

By

MILTON GOLIN

"Hot extrusion" process at National Tube Division Plant of U. S. Steel Corporation

U. S. Imports Industrial Know-How, Too

Big problem is adapting foreign mass labor techniques to American machines and automatic controls

FOR years U. S. engineers tried to develop a "hot extrusion" process whereby high-alloy stainless steel could be squeezed into tubing. But it took a Frenchman named Uguise-Sejournet to figure out a workable plan involving a 2,500-ton hydraulic process.

Today you can see the process in operation at the National Tube Division plant of the United States Steel Corporation in Gary, Indiana.

The adaptation of this technique to the expanding needs of American industry is one of many examples which show that ingenuity is not Uncle Sam's monopoly. Indeed, American industry relies heavily on know-how borrowed from abroad.

"One of the main problems we face in international exchange of production ideas is that European and American industries operate under widely different economic conditions," reports the Foreign Operations Administration. "Europeans rely on cheap manpower and expensive raw materials. They dole out their precious resources to an army

of workers, and so they have many manufacturing techniques which rely on a series of hand operations."

Not so in America, where engineers often agree with their foreign colleagues only on the technical theory of an invention. The U. S. problem is adapting foreign mass labor techniques to American plants crammed with machines and automatic controls.

Import Molding Process

A good example is the shell-molding process in which a thin plastic-reinforced mold forms a metal casting. This method, introduced in Germany during the last world war, proved to be the answer to certain U. S. foundry problems after the shooting stopped.

But in Germany the process was basically a craft. So U. S. foundrymen and equipment makers had to mechanize it. They succeeded in developing machinery to handle many steps automatically. This is how shell molding became a stand-

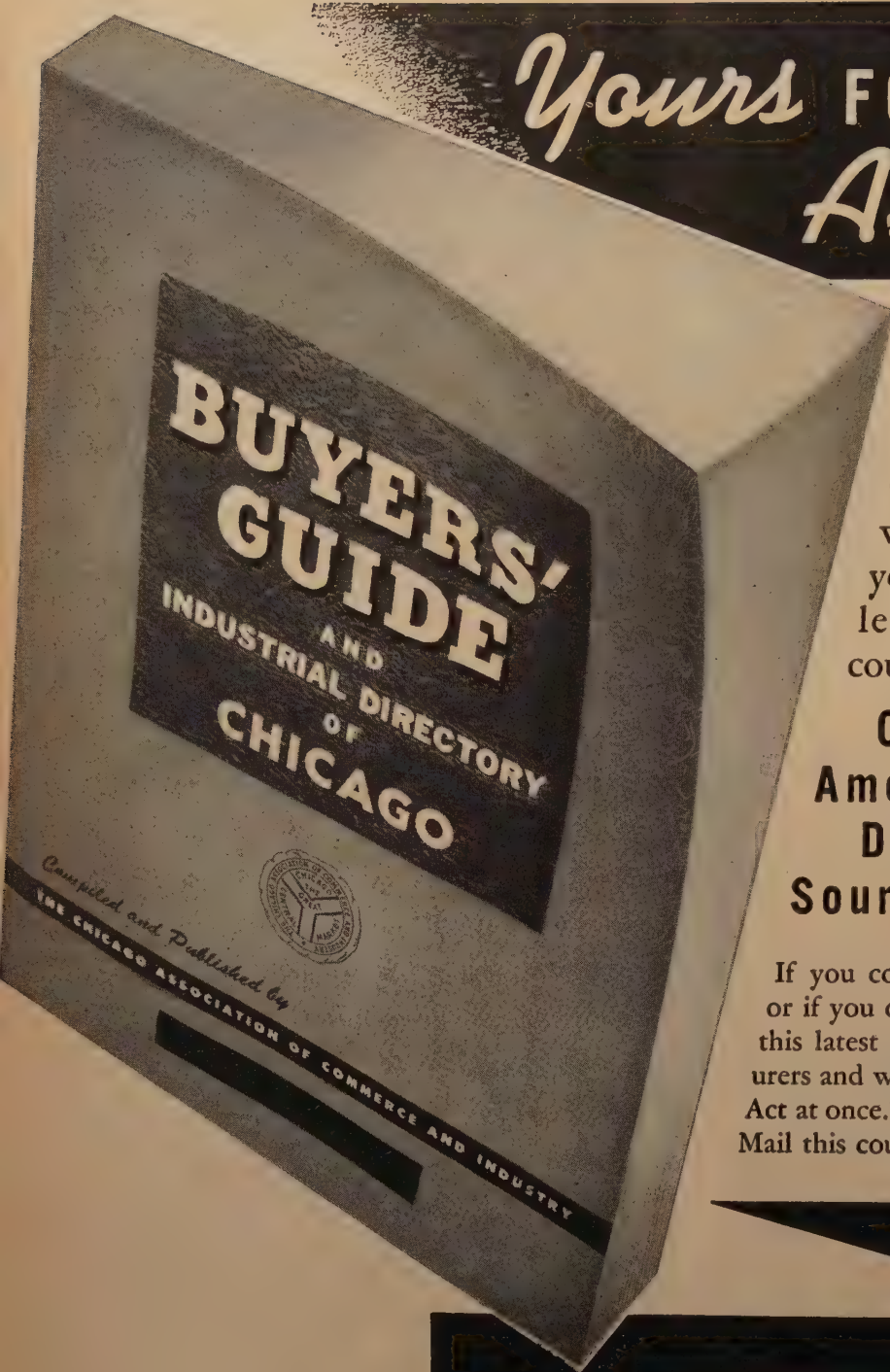
ard technique in many American foundries.

Because some foreign machines are so good, it pays enterprising Americans to spend large sums of money adopting them for U. S. factories. Shortly after the last war, Warner & Swasey heard about a new European textile machine that made its American counterparts look like Indian looms. They bought it from the Swiss owners and then spent five years and \$3,000,000 redesigning it!

The original machine cost \$18,000. But Warner & Swasey's refinement now sells for \$7,000, a price American mill owners can afford.

Most industrial techniques are imported from Germany, Britain, France, Switzerland and Italy, in that order. American adaptation is not uniform, however. It is weak in some fields and strong in others. In electronics, for example, this country's highly competitive stress on mass communications instruments leaves European engineers far be-

Yours **FOR THE**
Asking!



Your copy of the latest edition of this Guide to Sources of Supply in the **CHICAGO MARKET** will be mailed **FREE** if you write at once on your letterhead or mail the coupon below.

**CHICAGO—
America's Most
Diversified
Source of Supply**

If you come to Chicago to buy or if you order by mail, you need this latest directory of manufacturers and wholesalers in Chicago. Act at once. The supply is limited. Mail this coupon **NOW**.

**YOUR COPY
OF THIS YEAR'S
EDITION IS
READY—SEND
FOR IT NOW**



**Buyers Guide Division
The Chicago Association of Commerce and Industry
One North La Salle St., Chicago 2, Ill.**

Please send me free of charge a copy of the
Buyers Guide and Industrial Directory of Chicago.

NAME _____
FIRM _____
ADDRESS _____
CITY _____ **ZONE** _____ **STATE** _____
TITLE _____

mind. But in metal-working Americans have much to learn.

German know-how is responsible for quadrupling the tonnage of America's biggest machine presses. These gigantic devices which extend many stories below grade and several floors up make possible huge castings which, in one operation, stamp out the forms of entire wings for our big airplanes. Less than a dozen of these mammoth presses are in existence in this country, but they are turning out the world's heaviest castings.

Ideas Contagious

Foreign design and methods of producing it seem to be contagious. The basic Italian automobile silhouette is responsible for the sweeping lines in most American cars; and Scandinavian design is influencing American pottery, textiles and furniture styles. Like the Swedes and Italians, some U. S. home furnishing firms are hiring skilled designers so that mass-produced wares can be made with a high regard for design and beauty.

The First National Bank of Chicago, whose foreign department includes specialists in virtually all fields of business and industry, reports these recent developments in U. S. adaptation and adoption of foreign techniques:

American furriers, who formerly sent mink paws to Greece for processing into usable pieces, have learned to do the same job here;

Tailoring methods in the Italian fashion trade are generally being applied to U. S. facilities and training methods;

Watchmaking machinery is being imported from Switzerland, world center of precision timepieces;

Olivetti business machines are being taken apart in American laboratories for clues to the Italian firm's unique methods of construction;

Swiss screw machines and machine tools, Belgian glass-blowing and lace work, and Dutch and Belgian diamond-cutting and -polishing devices are subjects of full time study by technicians in this country;

Precision engineering of all kinds as well as petro-chemical processes from Germany continue to entrance U. S. experts.

Three years of cooperation and research between United States Steel, Nelson Stud Welding of Lorain,

Ohio, and Svenska Ab Gasaccumulator of Stockholm, Sweden, this Spring produced "Tigerbraze." This is hailed as one of the greatest improvements in railroad track bonding in the last 30 years, and it is going to eliminate the "clickety-clack" so familiar to American train riders.

One German development, the Fischer-Tropsch process of producing a variety of liquid fuels from coal, coke or natural gas, may someday make it practical to extract oil from shale for commercial use.

Ruthner, another German, showed U. S. metalworkers how to eliminate two bugaboos. His process uses the same pickle-liquor over and over again to take the scale off semi-finished metal products. This reduces the cost of this operation and also eliminates the headaches of disposing of the waste.

A Turkish engineer named Orhan Pinar came to this country under a Fulbright travel grant. Last year, before returning home, he contributed his combined Turkish and American know-how to design bridges for a section of the Garden State Parkway in New Jersey.

Two-Way Exchange

Most American industrialists are quick to note that ideas and techniques are interchanged in both directions. They know, too, that the European has gained much more from American factories and laboratories than vice versa. But these same far-seeing American industrialists have a good reason for keeping this two-way traffic of ideas and talent flowing.

They want to encourage enough development abroad so that a pool of technological knowledge can flow continually throughout the free world. The long range view also looks to the day when depletion of certain U. S. raw materials or the sudden demands of war production will require sharp changes in present U. S. industrial techniques. This is in the mind of the Republic Steel Corporation in Cleveland as it continues to spend much time and money studying Swedish steel-making. The Swedes have been able to produce quality steel using much less coke, an expensive item in mass production.

Dozens of large American firms operate a technician exchange pro-

important message

to financially qualified firms

We will lease or sell, and undertake completely the design, construction and financing of

**Industrial
Warehouse
Commercial
Office Buildings**

to meet your specific requirements. Now available in Chicago or anywhere in the United States.

W. A. Warren

BAIRD & WARNER, INC.

"Centennial Year"

215 N. Dearborn St., Chicago

A. J. BOYNTON AND COMPANY

ENGINEERS AND TECHNICAL
COUNSELORS

A Competent
Engineering
Organization

Committed to Rendering
Accurate and Efficient

ENGINEERING SERVICE

FOR THE
PLANNING
CONSTRUCTING
OPERATING
OF
INDUSTRIAL
PLANTS
AND
EQUIPMENT

109 N. WABASH AVE.
CHICAGO 2, ILL.

CENTRAL 6-8442

Guard Against Rust

**WATER
SUBMERSION**

SALTS

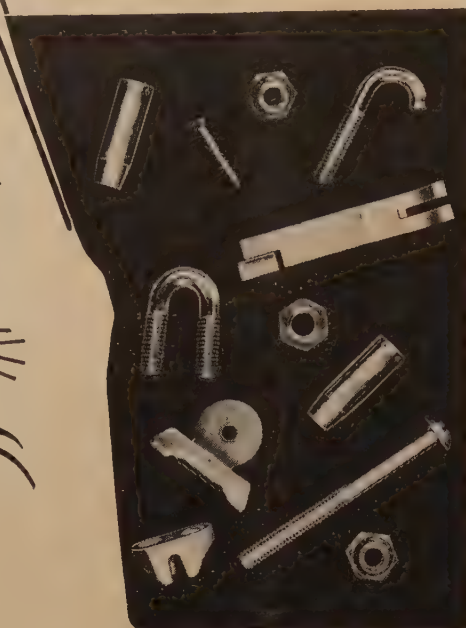
FUMES

SMOKE

WATER

HUMIDITY

ZINC OR CADMIUM PLATING



FOR A BRIGHT PROTECTIVE FINISH

Metal has many enemies that attack and deteriorate its usefulness. Rust is the foe to guard against. Our bright zinc and cadmium finishes offer good looks plus protection. Consultation and samples on request.



35 YEARS OF SERVICE TO INDUSTRY

WESTERN RUST-PROOF CO.

2137 W. Walnut St. • Chicago 12, Ill. • Tel. SEeley 3-1692

SEeley 3-2765

THE HAINES COMPANY
CONTRACTORS

FOR

VENTILATION & AIR CONDITIONING

SHEET METAL FABRICATORS

MATERIAL CONVEYING

WELDING

1931 W. LAKE ST. • CHICAGO 12

TIN PLATE
TERNE PLATE
BLACK PLATE

Sheet
Strips
Circles
Scrap

NEvada 8-4100

LOU STEEL PRODUCTS
COMPANY

923 S. KOSTNER AVE., CHICAGO 24, ILL.

gram with foreign companies, either independently or through the Institute of International Education, which works with the state department in coordinating exchange fellowships. This agency now administers exchange programs which involve 4,000 people every year between the United States and 81 countries of the free world.

Thirty-five American business firms work with the I.I.E. They include Borg-Warner Corporation, Continental Can Company, Inc., International Business Machines Corporation, Socony-Vacuum Oil Company, Inc., Goodyear Tire and Rubber Company, Inc., General Electric Company and E. R. Squibb and Sons. Early this year the Olivetti Company made a grant to the I.I.E. to strengthen the Italian-American fellowship exchange program.

Operates Own System

A pioneer in the exchange of foreign manufacturing techniques and technicians is International Harvester Company, which pre-dates I.I.E. and operates through its own branches in countries over the globe, studying, adapting and refining ideas and methods in a wide diversity of operations.

And some American firms pay technical men to do nothing but scout foreign countries in search of inventors ready to sell their wares.

The Institute of International Education believes that American study abroad means infinitely more than profit on the business ledger. Foreign viewpoint in work and play offers an insight that contributes to larger scientific thought and perception. According to reports to the I.I.E., after a trip overseas, one U. S. scientist wrote: "My technical knowledge was improved considerably, especially in the methods of tackling a problem. It gave me a new idea as to how to do scientific work."

Last year Leon Vickman, a Hughes Aircraft Company engineer in California, studied radioelectricity in Paris. He returned with the prime observation that French pioneers in this field emphasized learning theoretical background, rather than the American way of applying theory to practice. The result, says Vickman, is exposure to "a way of reasoning which follows in the foot-

steps of many world-famous men of science."

Two Frenchmen, Henri Cretien and Abel Gance, pioneered in the field of wide-screen film processes and tricky lenses which led to CinemaScope.

How do American industries without foreign subsidiaries or direct contacts abroad go about tapping the reservoir of foreign know-how? Exchange fellowships through I.I.E. are one way. Another is to go to a consulting firm which specializes in getting licenses for foreign inventions.

Two years ago the Steuben Glass Company gave experimental on-the-job training to a pair of young design engineers from the Royal College of Art in London. It didn't take long for company executives to notice they got more than they bargained for: the students were teaching a few things themselves.

Steuben President, Arthur A. Houghton, Jr., puts it this way: "We planned the exchange as a gesture of good will but we found that very definite benefits accrued to the company. Now we are extending the experiment."

Boom's On In Latin America

(Continued from page 14)

true of its new store in Lima, Peru, scheduled to open this fall.

Our company is also evidence that the Latin American market is growing continuously. Before the war, we had only one paint plant in operation in South America. Since the war, however, we have found the market for quality paint so greatly expanded that today we are in the paint business in an important way in Chili, Peru, Colombia and Argentina.

The Latin Americans essentially are very much like ourselves. Once one man paints his house, his neighbor's wife wants her husband to paint his. In business, if one storekeeper paints his store and makes it more attractive looking, his competitor down the street will soon do likewise.

In the postwar period, Latin America's gross product, measured in constant prices, has increased from \$27.3 billion to \$41.6 billion, or by 52 per cent. In this same period, the United States' gross prod-

uct increased from \$263 billion to \$307 billion, also measured in constant prices, or by 17 per cent.

Today Latin America's gross product amounts to a little over \$40 billion. By 1975 it will be \$100 billion, almost two and one-half times the present level. The Paley Report estimates that the U. S. gross product will only double in this same period.

Although Latin America has made tremendous strides in the post-war period, it has a long way to go. The status of its development today is roughly parallel to the United States fifty years ago.

This country's expansion was greatly stimulated by European bankers whose foresightedness and courage supplied a large portion of the capital that helped develop the United States.

However, we all know that a U. S. investor is not going to place his capital in a foreign country unless he can expect a higher rate of return than that obtainable at home. Such a situation is not new. Capital



TO FIND ANYTHING YOU WANT
FOR YOUR OFFICE, FACTORY,
STORE OR HOME, USE THE
RED BOOK WITH YELLOW PAGES
...CHICAGO'S CLASSIFIED
TELEPHONE DIRECTORY

**TO GET THE BEST
BUY KILIAN CASTERS**

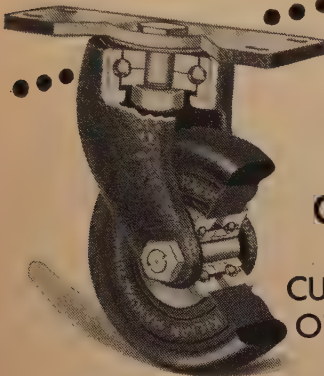
**KILIAN DELUXE
BALL BEARING
CHAIR CASTERS**

Available in

- Cushion type with heavy rubber tread. Fitted with duxex self-lubricating wheel bearing.
- Hard, non-marking plastic wheel with plain bearing.



**KILIAN
SWIVEL
PLATE
CASTERS
WITH
CUSHION
OR HARD
TREAD
BALL BEARING WHEELS**



**KILIAN
MEDIUM
DUTY
CASTERS
WITH PIPE
THREAD
TERMINALS**



- Cushion or hard rubber wheels in 1/2", 3/4" and 1" male or female terminals.
- 3", 4" and 5" ball bearing wheels.

*Phone or Write for
Information and
Catalog*

SERVES THE
S-B
COMPANY

**THE SCHRADER-
BATTERSON CO.**

806 W. Washington
Chicago 7, Illinois
CHesapeake 3-9400

has always sought the areas of highest return. This reflects the age-old economic law that those countries with a large demand for new capital, but a limited supply of their own, offer a higher return than countries rich in capital such as the United States today.

This condition clearly shows in the price one has to pay for commercial bank credit in Latin America. Present rates of interest for commercial bank borrowing in certain countries are: Brazil, 9 to 12 per cent; Peru, 9 to 10 per cent; Venezuela, 8 to 10 per cent; Mexico, 9 1/2 per cent; Uruguay, 8 1/2 to 9 1/2 per cent.

Compared to the present prime commercial bank rate of three per cent in the United States, you can see that credit is from about three to four times as expensive in Latin America.

The businessman in Latin America is able to pay such high interest charges on bank borrowings because business is much more profitable in Latin America than in the United States. High profit margins are the natural outcome of a growing demand for goods, reflecting the rising standard of living. Only in highly developed industrial nations, where capital has been accumulated over a considerable period of time, and where well organized capital markets exist, are profit margins low and still decreasing.

Profit Margins

Several times during the last few years profit margins in this country were high, due to the inflated demand for goods generated by war scares; but this has not changed the basic long-term trend of a declining return on capital in the United States. The average return for all industries on net worth has already declined in the United States from 13.4 per cent to 10.5 per cent between 1950 and 1953, and in Canada from 14 per cent to 9.8 per cent in the same period. Preliminary figures indicate that the 1954 rate of return in the United States may have dropped below 10 per cent. Many of the older and more mature industries have even lower profit margins than these averages would indicate.

These same conditions do not exist in Latin America, as many in-

dustries there are still in their infancy. Although the Western World has the ability to produce increasing amounts of goods, keener competitive conditions are developing in the world markets. In view of this situation, I expect profit margins in the more industrialized countries to shrink still further, while profit margins in Latin America should be well maintained in view of its rapidly expanding markets.

Improved Investing Climate

Today in Latin America there are many signs of an improving investment climate. Just recently, Peru and Costa Rica joined our country's investment guaranty program. Cuba is negotiating a tax treaty with the United States. Brazil and Argentina are easing their laws with regard to foreign investment.

I am enthusiastic about the opportunities in Latin American countries but I am not at all unmindful of the arguments against investing in those countries. The usual objections are: risk of inconvertibility of currency, the danger of expropriation of foreign assets, disturbed political conditions over which the investor has no control.

Now in the first place, any prospective investor in Latin America should carefully analyze conditions in the country or countries in which he proposes to invest.

In the second place, he should become associated with expert managers with experience in that field.

In the third place, he should consider his investment as a permanent one, which he would build up with plowed back profits and to which he would apply long-range management and development policies.

Bearing these precepts in mind, I don't think he has much to fear. There are countries in Latin America which have no exchange controls, and which are operating under a full and free economy. There will be periods, as there are now and as there have been in the past, when earnings and reserves in some countries cannot be remitted.

There is no reason to consider that such conditions are permanent, or even more than transitory; and the return on investment can and should more than offset the transitory inability to remit earnings. In the meantime the accumulated cur-

ncy earnings can be plowed back to the business.

With respect to expropriation, our firm has been doing business in South America for more than 100 years and over all that period we have never lost a dollar of our money or a square foot of our land through expropriation.

As for the third objection, it would be foolish for me to say that the political history of all the Latin American countries reflects political stability in any degree comparable with that which we have known in this country. Again, however, I must rely on the experience of our firm and authority for the statement that changing political conditions in any of the Latin American countries, unless they go completely Red, can be lived with by unswerving loyalty to a few simple principles:

Stay out of local politics. This doesn't mean stay partially out. It means stay out completely. If you do this, you will be able to get along with whatever government is in power. During most Latin American revolutions, the traffic cop still directs traffic, the postman still delivers mail and life goes on pretty much as usual.

Employ as the managers of your business able and outstanding nationals wherever this is practical and feasible, and keep them out of politics, too.

Have your management, and particularly the Americans in your management, closely identify themselves with local community life and become part of the countries in which they live.

Materials Handling

(Continued from page 17)

ously. Walking distance per order has been cut 50 to 90 per cent, and the firm has increased its storage space more than 100 per cent without appropriating another square foot of floor area.

In stockrooms and warehouses, conveyorized racks have been used to hold everything from carpet rolls to consumer-size packages of frozen food. Within many production departments, they dispense tote boxes filled with small parts-in-process and/or quantity lots of nuts, bolts, washers, and similar raw materials needed in assembly. Shipping rooms use the rack to hold bags and



**"Fill'er up
for the next
22,000
years!"**

Not so ridiculous as it sounds. The fact is, if this Cities Service tanker were loaded with gasoline, it actually could supply an automobile with enough to last for 22,000 years!

It's the S. S. W. Alton Jones, one of the newest members of the expanded 27-vessel Cities Service tanker fleet. With a deadweight tonnage of 38,000, a capacity of 336,000 barrels of petroleum, and a speed of 17½ knots fully loaded, it is one of four new, ultra-modern Cities Service supertankers.

Yet, impressive as they are, these new ships are just one example of Cities Service progress during 1954.

Other examples: the over \$60,000,000 invested last year to locate and produce oil . . . refinery expansion and modernization at Lake Charles and East Chicago . . . and the hundreds of miles added to the Cities Service pipeline network.

This growth benefits more than Cities Service. It is healthy growth that helps keep our standard of living the highest in history . . . helps fill the vital oil larders of the free world.

CITIES SERVICE

QUALITY PETROLEUM PRODUCTS

JAMES H. McCAULEY & SONS, INC.

**CONTRACTING MECHANICAL ENGINEERS
SERVING INDUSTRIAL PLANTS**

**BOILER PLANTS & HEATING SYSTEMS
POWER PIPING
PROCESS PIPING
FABRICATED WELDED PIPING
AIR CONDITIONING SYSTEMS
TANK STORAGE SYSTEMS**

5620 W. 65th St., Chicago 38, Ill.

POrtsmouth 7-3232

Going To Build—Call Us



WM. E. SCHWEITZER & Co.

GENERAL CONTRACTORS

2207 Dodge Avenue

Evanston, Ill.

Ambassador 2-3489

THE ROTARY INTERNATIONAL BUILDING
RECENTLY COMPLETED

UNION CLUB MOTOR LIVERY

Chauffeur Driven

CADILLAC LIMOUSINES



*Union Club has been the choice of distinguished families,
industrial executives and visiting dignitaries since 1889.*



Local or Out of Town — Day and Night Service

1460 No. Clark St.

MOhawk 4-0301

knocked down cartons of various sizes.

"There is increasing evidence that conveyors do not necessarily mean only 'from here to there' handling," C. B. Elledge, president of the Materials Handling Institute, commented recently. "Integration into the manufacturing or assembly process, to provide a complete processing system, is increasingly commonplace," he added.

A prime example of what Elledge was talking about is the plant Hotpoint Company built in Cicero, Illinois, a few years ago. Here, conveyors not only transport work in process, they take it through many of the processes, notably a spray painting operation and a metal pickler. Conveyors are also used for storage of semi-finished parts. The system works much like a railroad siding. Parts are held on special fixtures attached to the conveyor chain, which is suspended from the ceiling above the production lines. When the parts are needed for assembly, power is turned on and the parts flow down to a point where they're transferred to a transportation conveyor that carries them to the appropriate assembly line.

Ideas Spreading

In the automobile industry and a few others, conveyors that store production, automatically palletize it, and automatically classify it, are old stuff. What's happening now is that these ideas are spreading, both to additional firms within an industry where they're well-known, and to new industries. One indication of the increased interest is sales of conveyors, which totalled \$158 million in 1950 and reached \$285 million last year.

Take automatic pallet loaders. The loaders have been on the market roughly since World War II. But, within the past few years they've been pressed into a host of additional uses by a multitude of companies, among them the Phelps-Dodge Copper Products Corporation, Canada Dry Ginger Ale, Inc., Lever Brothers Company, Clorox Chemical Company, and Phillips Petroleum Company.

A number of plants have installed automatic pallet loaders capable of handling cartons of several different sizes. At Colgate-Palmolive Com-

(Continued on page 31)



Industrial Developments

... in the Chicago Area

INVESTMENTS in industrial plants in the Chicago area totaled \$108,322,000 in June compared with \$34,649,000 in June, 1954. This is the largest monthly investment total since April, 1942, when the total was \$232,000,000. Total investments for the first six months of 1955 were \$198,222,000 compared with \$133,640,000 in 1954. These figures include expenditures for the construction of new industrial plants, expansions of existing buildings and the acquisition of land or buildings for industrial purposes.

Youngstown Sheet and Tube Company is making several large expansions of its plant capacity in addition to its new tin plate mill which was announced in February. The largest expansion will be a bore seamless pipe mill. Another provides for a battery of 75 coke ovens; and a third for two high pressure boilers and a 25,000 KW generator.

Inland Steel Company will erect a battery of 87 coke ovens and necessary auxiliary equipment for the handling of such products as benzol and toluol, pyridine and sulphate of ammonia. In addition the company is installing a galvanizing line to handle widths to 60" and speeds up to 300 feet per minute.

United States Steel Corporation is expanding its Gary Sheet and Tin Mill with the addition of a high speed electrolytic tinning line.

Avon Products, Inc., Merchandise Mart, will build one of the world's largest cosmetic manufacturing plants on a 20-acre site at Waukegan and Golf roads in Morton Grove. The plant will contain 350,000 square feet of floor area and will house all the midwest manufacturing facilities of the company as well as the administrative and sales offices.

Skidmore, Owings and Merrill, architect; Hogan and Farwell, Inc., broker.

• **Olson Rug Company** is constructing two large expansions to its main plant at Diversey and Pulaski road. The expansions will total 370,000 square feet of floor space. Quinn and Christiansen, architect; George W. Neistadt, engineer; Gust K. Newberg, general contractor.

• **Borg-Warner Corporation** will build a large research center on a 45-acre tract of land on the north side of Algonquin road near Mount Prospect road, on land expected to be annexed to the city of Des Plaines. The one-story structure will contain approximately 34,000 square feet of floor area and will be devoted to research for the many various divisions of the company, which operates four manufacturing plants in the Chicago area at the present time.

• **E. R. Squibb and Sons**, Division of Olin Mathieson Chemical Corporation, 427 W. Randolph street, has broken ground for a regional distribution warehouse for its line of pharmaceutical products. Squibb's new building will be a one-story brick and steel structure located in Franklin Park at 2645 Rose avenue. The building will contain 52,000 square feet of floor area and will be located on a 2½ acre site, which will permit future expansion.

• **Western Electric Company** has purchased the Montgomery plant of United Wallpaper Company near Aurora. The 442,000 square foot plant on a 47 acre site, on the western bank of the Fox River, was constructed in 1947. J. J. Harrington and Company, broker. Western Electric Company is also undertaking extensive remodeling of its plant at 6630 W. Grand avenue. Built during

FOR SALE

- 52,350 Sq. Ft. New
- Three Acres for Expansion
- Near N W Suburb
- Chicago Switching District
- Wide Bays
- Possession 60 Days

J. J. HARRINGTON & CO.

Industrial and Business Property
22 W. Monroe St. — Chicago 3
Telephone Financial 6-1322

DE LEUW, CATHER & COMPANY

Consulting Engineers

Transportation, Public Transit and Industrial Problems

Industrial Plants	Grade Separations
Railroads	Expressways
Subways	Tunnels
Power Plants	Municipal Works

▲
150 N. WACKER DRIVE,
CHICAGO 6, ILL.

HOT TIN DIPPING

Specializing in quantity production of industrial fabricated parts in steel — copper — brass — Hotel — Restaurant — Dairy — Bakery equipment. Sheets — bars — tubes — pipe — etc.

Lead & special mixture coatings. Operating largest facilities in the industry.

C. DOERING & SON, Inc.

LAKE & LOOMIS STS.
MONROE 6-0921

ORGANIZATIONAL PLANNING

Executive and Sales Personnel
Counseling and Testing
Leroy N. Vernon, Ph.D.
Industrial Psychologist

THE PERSONNEL LABORATORY
La Salle-Wacker Bldg. • Chicago

BATTEY & CHILDS

ENGINEERS - ARCHITECTS

Complete Service for Industry

231 So. LaSalle St., Chicago 4, Illinois

Join The Fastest Growing Family Of Savers In Chicago

FRANK P. KOSMACH, President

A FIFTY MILLION DOLLAR ASSOCIATION



Established 1889

ST. PAUL FEDERAL SAVINGS

6720 WEST NORTH AVENUE
CHICAGO 35, ILLINOIS

TELEPHONE NATIONAL 2-5000

the war for Revere Copper and Brass, Western Electric has been operating this plant for four years for defense production purposes, but will now utilize it for the production of telephones.

• **Barber-Greene Company**, Aurora, is starting construction of addition to its plant containing 48,000 square feet of floor area. The company manufactures conveyors and road building machinery. Johnson and Johnson, engineers.

• **Bell and Howell Company**, manufacturer of photographic and electronic equipment, is erecting a one-story addition to its plant at 7200 McCormick boulevard in Lincolnwood. The new wing will contain 50,000 square feet of floor area. Ragnar Benson, Inc., engineer-builder.

• **Armour Research Foundation**, the industrial arm of the Illinois Institute of Technology, is erecting a building to house its research activities in connection with the establishment of the first industrial nuclear reactors. The building will contain 80,000 square feet of floor area and will consolidate physical, electrical and other research activities necessary in this project. Ludwig Mies Van Der Rohe, designing architect; Naess and Murphy, associate architect.

• **Pioneer Tool and Engineering Company**, 3914 W. Shakespeare avenue, is erecting a 50,000 square foot plant in Harwood Heights. The company makes special machinery, tools, dies and machine parts. Klefsch Engineering Company, engineer.

• **Art Lamp Corp.**, 1750 W. Fulton street, has acquired a 10-story building at 1320 S. Wabash avenue, formerly occupied by Magill-Weinheimer Corp. The building contains 170,000 square feet of floor area and a 23,000 square foot parking lot. Art Lamp will utilize approximately 50,000 square feet of the building for its own use. Hogan and Farwell, broker.

• **General Felt Products Company**, 2301 S. Paulina street, has acquired a one-story building at 2417 S. Paulina street. The new structure contains 100,000 square feet of floor area. The company will utilize the

STEEL

• HOT & COLD ROLLED
SHEET STEEL

• SPECIAL GAUGES AND
SIZES - COILS OR
SHEARED LENGTHS

• HOT ROLLED PICKLED
& OILED STRIP STEEL

• HOT & COLD ROLLED
STRIP STEEL

• ROUND EDGE FLAT WIRE
ALL TEMPER

• ELECTRO GALVANIZED
SHEET & STRIP

• SPECIAL TEMPERED STEEL

• ANNEALED SPRING STEEL

Phone

EVERGLADE 4-5700

and get

"PROGRESSIVE
WAREHOUSE
SERVICE"



HARRIS STEEL Co.

2300 W. BLOOMINGDALE AVE., CHICAGO 47, ILL.

SALES OFFICES IN CHICAGO & MINNEAPOLIS

CODE DATING

Automatic, Dependable, Guaranteed,
Friction and Power-driven Machines
Write, giving details on a specific coding
problem.

KIWI CODERS CORPORATION
3804 N. Clark St. Chicago 13, Ill.

A-Z LETTER SERVICE

ESTABLISHED 1918

Mimeographing ★ Multigraphing
Planographing ★ Multilith
Addressing ★ Mailing
Direct Mail Campaigns

139 N. CLARK DEarborn 2-1891

METAL NAME PLATES

Government Specifications
Standard Finishes
RELIABLE SERVICE

CHICAGO NAME PLATE CO.
Chicago 26, Ill. AMbassador 2-5264

Electrical Plant Protection

Patrolmen — Uniformed Guards

CARS EQUIPPED WITH TWO WAY RADIO
KEDZIE PROTECTIVE PATROL

301 No. Kedzie Ave. CHICAGO 12
Phone Day and Night—KEdzie 3-5250

ilding for the manufacture of car-
t linings. Alex Friend and Com-
ny, Inc., broker.

National Aluminate Corpora-
on, 4001 W. 71st street, producer
catalysts, is adding a new three-
ory structure to its plant which will
ntain 18,000 square feet of floor
ea. J. V. McPherson, architect.

B & F Machine Products Com-
any, 1429 N. Keating avenue, is
arting construction of a plant in
Franklin Park to which the company
ill move its entire operations. The
ew plant will contain 12,000 square
et of floor area.

Carl Buddig and Company,
116 S. Vincennes avenue, is build-
g a meat packing plant at 11914 S.
eoria street in which the company
ill relocate all of its facilities. The
ew structure will contain 8,000
quare feet of floor area.

Hankel Printing Company, 161
7. Harrison street, has acquired 52,-
00 square feet of floor area at 314
7. Superior street. Eiger Realty
ompany, broker.

Materials Handling

(Continued from page 28)

any's Kansas City, Kansas plant, for
example, seven conveyor lines feed
into the input side of the loader. An
electric brain scans each line, auto-
matically rearranging the loader's
mechanism to accommodate a given-
size box when the boxes stacked up
in any one conveyor reach a pre-
etermined number. According to
company officials, the unit will pay
for itself after four and one-half
years of service by undercutting
previous hand labor costs from 80
to 85 per cent.

A recent study by Sun Oil Com-
pany officials shows that if a plant
turns out more than four cases of
production a minute, automatic pal-
et loaders may be able to save it
money. Major reason is the loader's
speed, around 30 cases a minute,
compared to seven or eight by hand.
Meanwhile, the ubiquitous lift
truck has been sprouting new attach-
ments almost as fast as a tree sheds
leaves in Fall. Within recent years,
attachments for carrying multiple
units of everything from canned
milk to railroad car wheels have
been developed. Another significant
trend is the pusher plate attachment

Accurate Screw Company



SCREW MACHINE PRODUCTS

Reg. U.S. Pat. Off.

FOR

- ECONOMY
- EXPERIENCE
- QUALITY
- RELIABILITY
- SERVICE

A COMPLETE
PRECISION PLANT
CAPACITY

1/16" TO 2-1/2"

**AUstin 7-
5696**

SERVING INDUSTRY FOR

1312 N. CICERO AV.

**25
YEARS**

Established 1921

**AIR
CONDITIONING
AND
VENTILATION
CONTRACTORS**

**POWER PRESS FORMING
ROLLING - SHEARING**

**ARC - GAS & SPOT WELDING
10 Gauge and Lighter Steel
FABRICATION and INSTALLATION**

**Western Ventilating
Company**

1019 W. Grand CHesapeake 3-3434-6

**For the Careful
Investor**

3% and 3½% PER ANNUM
(Current Rates)

**on Personal Savings, Trust Funds,
Institutional Funds, Corporate
Funds**

PAID BY

**INSURED SAVINGS
ASSOCIATIONS**

Any Amount—\$500 to \$1 MILLION

★ All accounts insured by Federal
Agency

★ Fully Protected Mail Program

Ask for our Chicago and Nation-Wide
list—Complete Information.

NO CHARGE FOR OUR SERVICE

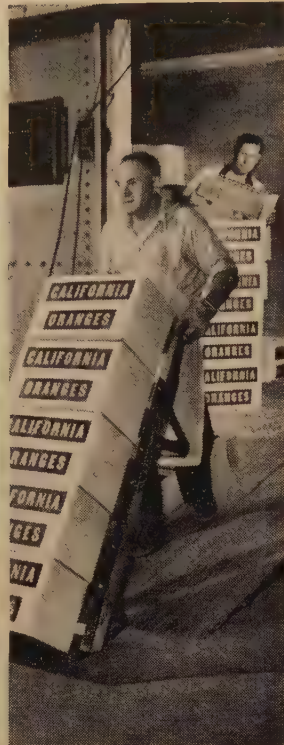
**Insured Investment
Associates**

176 W. Adams St. • Chicago 3, Ill.
Financial 6-2117 STate 2-4439

Wabash/Road of the men who move perishables



from grove



via Wabash



to market

or, how to get your product to market on time

Buyers and brokers of perishables routed thousands of cars of fresh fruits and vegetables via Wabash last year. They had good reasons:

Perishables go Wabash on high-speed trains, on *guaranteed* schedules. Refrigeration is carefully inspected and controlled. Wabash-owned terminal facilities speed up unloading. Wabash maintains a Diversion Bureau to arrange for instant diversion and re-consignment of cars when needed.

But your shipping problem may be different. It may be steel, or grain, or chemicals. May we prove *your* commodity gets equally reliable handling when you ship it Wabash to, through or from the Heart of America? Wabash representatives in 45 cities have the facts.

SHIPPERS!

Look at the advantages of
Wabash "HOT SHOT" Freight

1. "Bridges" the Heart of America, the only railroad member of both the Eastern and Western carrier groups.
2. Connections with 64 major railroads. Coordinated schedules at 118 interchange points.
3. All Diesel-powered trains.
4. Superior car service to shippers.
5. Fast "HOT SHOT" schedules to and through the major Gateway terminals or by-passing them altogether—as you wish.
6. Modern yards designed for faster assembly of trains and more orderly traffic flow.

Wabash

"HOT SHOT" FREIGHT



P. A. SPIEGELBERG,
Freight Traffic Mgr., St. Louis 1, Mo.



which enables the lift truck driver to unload pallets automatically. This gimmick has saved many firms a lot of money on transportation cost, since formerly they had to ship pallets as well as production, and pay the freight charge for both.

Here are just a few of the other developments which show the tremendous variety of jobs fork lift trucks are tackling: a truck with folding forks, which is more maneuverable in small freight elevators; a rotating clamp that will put an oil drum, a carpet roll, paper roll or metal billet on its side in a freight car and stand it upright in a warehouse with equal ease; a "side shifter," which moves the load horizontally as well as vertically, for operations in close quarters; magnets for picking up metal sheets; an attachment that dumps loads of powders, small metal parts, and similar materials weighing as much as 2,500 pounds; rams for handling coils of metal sheet and wire, and several kinds of rolled goods.

More Maneuverable

Fork lift trucks are also becoming more compact, more maneuverable. One firm, for example, recently introduced a unit 53½" long, shorter by several inches than any older model of similar capacity, and able to operate in narrower aisles. The truck has a turning radius 20 to 25 per cent shorter than its predecessors.

These improvements in materials handling equipment are bound to have a profound effect on industry. One situation that's going to change is the relationship between work-in-process and manufacturing time. The present relationship is indicated by a recent study of the Society for the Advancement of Management, which showed that in the typical plant there are seven handling operations for every production operation. The study also disclosed that 90 per cent or more of the time spent in turning out a long list of products is materials handling, rather than fabricating or assembly time.

As one materials handling expert put it: "American industry has done much to refine production technique. It has done relatively little to reduce the time expended between machines. But the emphasis is changing, and with this change is coming a tremendous opportunity for increasing industrial efficiency and reducing manufacturing cost."

Transportation and Traffic



THE House Appropriations Committee has approved a \$4 million appropriation to begin immediate construction of the first phase of the Calumet-Sag Channel project. The fund would be allocated as follows: \$1,830,000 for dredging; \$1,530,000 for moving bridges; \$300,000 for engineering and designing; and \$340,000 for supervision and administration. The first part of the project calls for widening of the Cal-Sag Channel from Sag Junction to the controlling lock just east of Blue Island; installation of a new lock and controlling works in the Little Calumet River south of Lake Calumet; and necessary bridge and utility alterations. The 16-mile channel is the connecting link between the Great Lakes and the Illinois-Mississippi waterway systems. Army engineers estimate that total traffic through the improved Cal-Sag Waterway would increase within five years of its completion to more than nine million tons annually, more than double the channel's present four million tons annual capacity. Further estimates indicate traffic would rise within 25 to 30 years to about 18 million tons annually.

• **Truck Tonnage During First Quarter Sets Record:** Tons of intercity freight handled by Class I motor carriers during the first quarter of 1955 were 12 per cent above the same period last year and 7 per cent over the previous record first quarter, according to the American Trucking Associations' Department of Research. The department reports that 1712 Class I trucking companies transported 60,435,069 tons of intercity freight during the first quarter of this year as compared with 53,874,312 tons in the same period of 1954. The highest increase, 16.2 per cent, was chalked up by carriers in Central Region

which embraces the states of Illinois, Indiana, Michigan (Lower Peninsula), and Ohio.

• **I.C.C. Refuses to Suspend Railroad Volume Rates:** The Interstate Commerce Commission voted not to suspend the reduced volume rates on less carload shipments of 5,000 pounds or more, published by the eastern railroads to become effective June 16. The rates are on the same basis as those which became effective March 24, 1955, on local movements via the Pennsylvania and Maryland & Pennsylvania Railroads. Suspension of the reduced rates was requested by the Eastern Central Motor Carriers Association.

• **I.C.C. Refuses to Probe 50-Cent Motor Carrier Surcharge:** The Interstate Commerce Commission has denied requests for investigation into the lawfulness of the 50 cents per shipment surcharge published in tariffs of the Middlewest Motor Freight Bureau. The commission said that the petitioners did not advance sufficient grounds to warrant instituting an investigation. A probe of the charge was requested by the National Small Shipments Traffic Conference, Minneapolis Traffic Association and the St. Paul Chamber of Commerce.

• **Railroads Set Second Best Safety Record During 1954:** Railroad casualties during 1954 were reduced 12.8 per cent under the previous year to set the second best all time record, according to J. T. Williams, manager of safety for the Pennsylvania Railroad and chairman of the Association of American Railroads' Committee on Statistics. Out of the 21 passenger fatalities reported in 1954, only five actually involved passengers in train accidents. The others resulted from such causes as

For the modern office . . .



OFFICE EQUIPMENT

with exclusive built-in features



Plastite tops that won't burn, chip, mar . . . actually keep their newness for years to come.

Interchangeable desk drawers, file drawers and plastite tops for more flexibility.



Feather-touch glider files* with safety-lock drawer that can't fall in extended position . . . special follower block that makes contents fire resistant . . . and ball bearing raceways for smoother, easier filing.

Scientifically designed aluminum posture chairs.



New, pastel and deep-tone colors to add warmth and richness to any office.

Special laboratory equipment for every need.



Most modern life-time steel office furniture at lower unit cost.

*Now at new low prices

CHICAGO BRANCH AND SHOWROOMS:

BROWNE-MORSE COMPANY
PURE OIL BUILDING, ROOM 590
35 EAST WACKER DRIVE
CHICAGO, ILLINOIS
DEARBORN 2-7189

► Yours for the Asking
... New Browne-Morse Catalog
PHONE OR MAIL TODAY!

BROWNE-MORSE COMPANY
PURE OIL BUILDING
35 EAST WACKER DRIVE
CHICAGO, ILLINOIS

Yes, please rush me
without obligation
your new catalog.

Name _____
Address _____
City _____ Zone _____ State _____

MOVING STORAGE PACKING

Estimates Without Obligation



ALL PHONES

Plaza 2-4000

Local and Nationwide Moving
Agent for Allied Van Lines

Complete Commercial Services

- Personnel Moving
- Office Removals
- Merchandise Storage
- Record Storage

1891 — OUR 64TH YEAR — 1954

EMPIRE

WAREHOUSES, INC.

General Offices
52nd & Cottage Grove Ave.

**In Lead Position and
Equipped to Lead**

**Caspers
Tin Plate Company**

Tin Plate and Black Plate
Plain or Decorated

4100 West 42nd Place
CHICAGO 32

Telephone: LAfayette 3-0163

boarding and alighting and falling from moving trains. The 1954 fatality rate was .07 per 100,000,000 passenger miles.

• **Predicts Opening of St. Lawrence Seaway in Spring of 1959:** Lewis G. Castle, administrator of the St. Lawrence Seaway Development Corporation, told a Senate Ap-

propriations subcommittee that the seaway will be completed in the Fall of 1958 and that it will be ready for navigation by the Spring of 1959. The statement was made in testimony before the subcommittee in support of the corporation's request for \$280,000 in administrative fund for the year beginning July 1, 1955.

Prefab Home Industry Going Up

(Continued from page 20)

offering at least two lines of homes, one in the economy and one in the luxury class. Modern Homes, for example, has its Value line and its Luxury line. The Value line is specially designed for the large production-type builder whereas the Luxury line has such exclusive features as complete Thermopane in all windows with the optional feature of electrically operated windows which open or close at the flick of a switch. The houses retail from \$9,500 to \$40,000.

Besides offering steadily more in the way of design and style, prefab makers are doing more advertising and merchandising of their wares. Almost all have national or sectional advertising campaigns with plans that allow dealers a certain percentage of their purchases for use in local advertising and obtaining literature and brochures on the homes.

The handling of sales at Meadowdale shows how merchandising conscious prefab makers have become. Meadowdale when it is completed will be a town of 30,000 population, all housed in prefabs, and the largest town of its kind in the country.

This year to interest the consumer in locating in Meadowdale, U. S.

Steel came up with the "supermarket" sales pitch.

Six model homes were built and furnished as was a theater with a seating capacity of 250 and an office-sales area with about 7,500 square feet of space. Prospective buyers are invited to see the homes and then view a 23-minute film which tells about the plans for the village and the prefab houses. After the film, the viewers who are still interested in buying then go into the office area and take a number. When his number is called, the prospect steps up to a counter to meet a salesman. The selling technique anticipates that the customer has had all of his questions answered and is now ready to discuss such things as financing and location.

Public Gathering

All sales are closed in a public gathering in the theater. Couples are introduced to one another and all questions relative to the construction of the homes and costs are answered. The mortgage papers are read to the group and signed. As many as 40 deals are closed in three hours.

Another indication that the prefab industry has become of age is in the financing of prefabricated homes. Most units are now approved by the Veteran's Administration and the Federal Housing Administration and are financed on the same terms as conventionally built houses. Ten years ago, lenders were often skeptical about financing prefabricated houses and buyers had difficulty getting mortgages. Today buyers, in many instances, find it easier to finance prefab houses than conventionally built homes because a number of the manufacturers have their own acceptance corporations. These corporations provide both

**AT LAST!... A low cost...
small quantity Microfilming service to
preserve Important Records.**

One small file or a roomful of records, can now be photographed, processed and accurately indexed on microfilm... the Watland way. No equipment to buy... we do the work. Cost is lowest of any reproduction method.

Save time, space and money, have your records preserved on microfilm, 24-hour service. Write or phone

WATLAND
INCORPORATED

Microfilm Division

4756 N. Clark St., Chicago 40

LOngbeach 1-3224

construction financing for the builder and mortgage financing for the buyer.

Private lending institutions are changing their minds about prefabs too, which makes mortgage money more available for prospective pre-fab purchasers.

Mr. Price reports that 175 banks, insurance companies, building and loan associations and other lending institutions, among them the largest in the country, are taking mortgages through the National Homes Acceptance Corporation. At the end of last year the Acceptance Corporation was servicing mortgages in excess of \$125 million.

Resale Price

As for the resale price of prefabricated homes, National Homes reports that many of its homes appreciate in market value soon after they have been purchased by the home owner. The prefabricated house does not bring down the price of other homes in the area, as some people are inclined to suppose," says Mr. Price and adds: "The other existing homes in the area set the price level. When a prefabricated house is resold by the original owner, its price tends to rise to the general level set by the majority of existing homes in the area."

In most cases prefabricated producers urge their builder-dealers to price their homes as low as possible. The manufacturers suggest that the dealer figure on about a ten per cent net profit for each house but to date they have found no effective way to enforce this policy. Variables in labor costs in almost every city also make it difficult for a producer to establish a standard price.

Like other industries, prefabricated producers have been faced with rising costs and are constantly looking for better and more economical ways of mass producing homes. For example most builders use top grade kiln dried lumber because it is clean, straight and true. It fits framing jigs quickly and easily and facilitates the assembly-line methods.

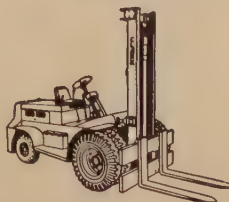
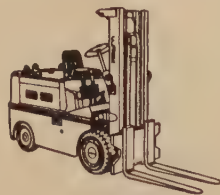
Prefab makers have also come up with some ingenious machines. A double-end tenoner saw, for example, can make as many as 23 different kinds of cuts, depending on the job to be done. It can cut a carload of lumber in two hours. Another machine cuts rafters to length, makes

CHICAGO-AREA DISTRIBUTOR

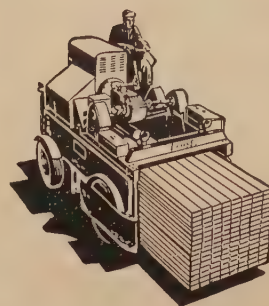
For

CLARK - ROSS

POWRWORKER Hand Trucks
• Fork Lift Trucks and
Towing Tractors.



Carriers for handling
lumber, steel and other
allied products.



SALES, SERVICE, PARTS, RENTALS—All Under One Roof
New and Used Fork Trucks • Tote Boxes • Beacon Hydraulic Dock Boards

MODERN HANDLING EQUIPMENT INC.

625 N. KEDZIE • Phone: SA cramento 2-5036

In Rockford—

SALES, PARTS & SERVICE

4606 WEST STATE • Phone Rockford 8-2283

ATLAS TAG



TAGS
LABELS
and DECALS
of every
Description

CALL OR WRITE US
So We Can Serve You

Check these Products
ALL MADE IN OUR MODERN FACTORIES

Shipping Tags
Production Tags
Die-Cut Tags
Inventory Tags
Manifold Tags
Carbon Slip Tags
Tag Envelopes
Labels
Decals & Transfers
of All Kinds

2435 N. SHEFFIELD AVE.
DI versey 8-6000

MODERN FACTORIES IN
CHICAGO and NEENAH, WIS.

INSULATION

Pipe Covering — Hot and Cold

Corkboard — Roofing

"RELIABLE" STEAM BAKED
CORKBOARD

For Cold Storage Insulation

Luse-Stevenson
Company

CONTRACTORS & DISTRIBUTORS
873 W. BLACKHAWK ST. CHGO. 22
MOhawk 4-3900



CHICAGO
NOV. 14-17
1955

A New World at your fingertips

Just reach for your date pad and reserve four days to explore your new world of production . . . attend the Second International Automation Exposition at Chicago's Navy Pier, November 14-17, 1955.

FOR THE VISITOR —

- Computer and Automation application clinics and special related symposia.
- Exhibits of leading manufacturers displaying the latest developments in automation.

FOR THE EXHIBITOR —

- A show of proven merit for finding new and exciting markets, and expanding 'old' ones.
- For exhibitor information, and a report on the success of the First Automation Show, write to Richard Rimbach Associates at the address shown or use the coupon below.

FOR VISITOR AND EXHIBITOR —

to help you keep step in the double-time march of production progress — read **INSTRUMENTS & AUTOMATION**, the world's leading magazine of measurement and automatic control (since 1928).

SECOND INTERNATIONAL AUTOMATION EXPOSITION

855 Ridge Avenue, Pittsburgh 12, Pa.

- ☐ Send EXHIBITOR information.
- ☐ Send show visitor registration data.
- ☐ Send sample copy of the magazine **INSTRUMENTS & AUTOMATION**.

Name Title

Company

Address

City Zone State



A testimonial plaque paying tribute to the Peoples Gas Light and Coke Company for 100 years of public utility service to the community is accepted by James F. Oates, Jr., (left) chairman and chief executive officer. Thomas H. Coulter, chief executive officer of the Association of Commerce and Industry, made the presentation on behalf of Chicagoland business and industry

the necessary notches and miters, and drills holes for the lag bolts, all in a single operation. A nailing machine secures the roof sheathing to supporting rafters. Its eight hammers, operated by compressed air, drive nails into the sheathing along each rafter. As the machine moves across the jig, the sheathing is edged on both sides by twin saws. The entire job is completed in 30 seconds.

It takes about 30 minutes for most prefabricated producers to turn out a house. These are trucked to the building site overnight so that an assembly crew, usually five men, can start in the morning and have the house under lock and key by nightfall. Foundations, cement slabs or full basement-type are completed before the prefabricated house arrives. Finishing the interior, wiring, plumbing, decorating, will take two to three weeks and then the house is ready for its occupants.

About 60 principal companies which have been active in the business for at least a couple of years and have fairly substantial-size production make up the "core" of the prefabricated industry. Altogether there are well over 100 companies making prefabricated houses. These are all producers of factory-made housing as contrasted to site fabricators. However their current production rate is small. A handful of companies are currently producing over half of

all prefabricated houses. Besides National Homes, these larger producers include: American Houses; Lumber Fabricators, Inc., Fort Payne, Alabama; United States Steel Homes; Pease Homes; Thyer Manufacturing Corporation, Toledo, Ohio; and Harnischfeger Corporation, Fort Washington, Wisconsin.

Today's prefabricated house costs 20 to 30 per cent less than conventionally built homes of comparable size, according to industry spokesmen. They predict even bigger price differentials as mass production methods gain momentum and building codes allow more complete packages, such as factory-built kitchens with all wiring and plumbing installed ready for connection with local utilities.

Considering the dent prefabricated producers have made in the home market they've come a long way in ten years. But according to some of the top men in the field it's only the beginning.

"Within five years 40 per cent of this country's housing market will be taken over by the manufacturers of prefabricated, factory produced homes," predicts General O'Brien. Robert J. Lytle, president of Modern Homes, foresees the industry producing one million homes, about 60 per cent of the total, in 1965. If true, this would make prefabricated house production a \$10 billion industry.

Here, There and Everywhere]*(Continued from page 9)*

trigger brain of the Mnemotron can memorize and recite the entire book. Developed and manufactured by the International Telemeter Corporation, a subsidiary of Paramount Pictures Corporation, the Mnemotron is the brain of the electronic computers being made by Rand Corporation.

A First for Education — The new University of Illinois College of Pharmacy building in Chicago, Illinois, is the first education building to contain electric stairways for conveying students. The building contains ten such stairways with a capacity of carrying 10,000 students during the 10-minute class changing period. The stairways travel at a speed of 20 feet per minute and will take a student from the basement to the fifth floor in 78 seconds. Electric stairways usually travel at a speed of 90 feet a second.

Lie Detector*(Continued from page 15)*

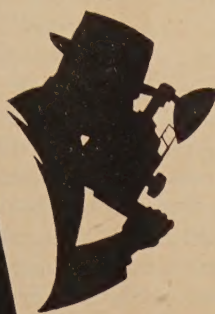
arrangements could be made. The company also launched a plant-wide modernization program to make working conditions more pleasant. Three months later the firm's president reported that the employees had begun to work as a well-knit team and boosted production almost 45 per cent. As for employee pilferage, it was a thing of the past.

Many banks have learned that clerks, who previously might have been tempted to "borrow" a few dollars until payday, now will avoid taking the chance with the knowledge that a routine lie test will reveal their actions. Department stores, possibly the biggest sufferers from employee pilferage, have reported astonishing drops in theft rates after periodic lie tests were instituted as a routine program.

Most of the polygraph employee screening programs offered to industry by qualified private agencies cover three phases:

Pre-employment testing: to determine whether a job applicant has a background involving a prison or arrest record, narcotics addiction, chronic alcoholism, theft or other undesirable traits;

Periodic or routine employee testing: to help keep employees in check, a sort of "booster" shot or "mass in-



pics
incorporated
photographers

DEARBORN 2-1062

187 N. LASALLE ST., CHICAGO, ILL.

CHICAGO'S
LEADING PHOTOGRAPHERS

IN

PRESS CONVENTION
PUBLICITY COMMERCIAL
INDUSTRIAL

24 hour phone service**Alco Electric Supply Co.****ALCO**

WHOLESALE

ELECTRICAL SUPPLIES
FOR INDUSTRY — CONTRACTORS

Commercial — Industrial — Residential
Lighting Fixtures, Lamp Bulbs, Conduit, Wire & Cable
Portable Cord, Motor Controls, Switches, Tools, Fans, Blowers
AMPLE PARKING

3918 West 63rd Street

REliance 5-3131

Chicago 29, Illinois

SCREW MACHINE PRODUCTS

*Automatic & Hand Screw
Brown & Sharpe Equipment
Capacity Up to 2 3/8"*
Warner-Swasey Turret Lathes

Secondary Operations
Milling - Drilling - Tapping
Facilities Available For
Light Mfg. and Assembly Work
Capable of High Precision Work

ALLIED SCREW MACHINE CO.

1338 S. Michigan Ave.
HArrison 7-3915

**Trade Promotion
Product Publicity**

A Complete Public Relations Program
Especially Designed For Your
Company.

**CHARLES J. CALLANAN
ASSOCIATES**

30 North La Salle Street
(STate 2-2772)

ENGLEWOOD AUTO PARTS

*distributors and jobbers of
auto parts, supplies and
equipment*

machine shop service

*automotive - industrial and
diesel*

internal cylinder grinding

engine rebuilding

6520 SOUTH STATE STREET

CHICAGO 21

WEntworth 6-2711

oculation" against theft epidemics; Specific tests: to clear the innocent and unveil the guilty after a crime has been committed.

One typical case in which an innocent suspect was cleared occurred last year following the theft of two choice box seat baseball tickets from the desk of a trucking firm manager. The tickets were for a sellout game between the Chicago White Sox and Cleveland Indians. Missing this crucial game made the manager furious. His outlook brightened, however, when he learned that he had absent-mindedly doodled the ticket and box numbers on his desk pad.

He managed to buy a couple of standing room tickets and with a private detective at his elbow stationed himself near the boxes in the ball park. The "culprit," to the manager's amazement, turned out to be his trusted secretary and her boy friend. The girl denied all guilt and offered the weak explanation of having found the tickets in the street. About to be fired, she insisted on a lie test and was found to be completely innocent of the charge.

With embarrassment now heaped onto his original anger, the manager ordered lie tests for his entire staff. The thief was found to be an assistant dispatcher who realized he probably would be nabbed when he took his seat at the ball park and threw the tickets away. The girl really found them in the street.

No Distractions

Tests can be conducted either in the firm or agency's office depending on the number of subjects to be tested and the type of case involved. Testing room requirements are simple: pleasant color schemes, no distractions, a setting that promotes a relaxed feeling. One agency has even installed an aquarium with exotic tropical fish to help put subjects at ease.

Here's how tests are made. The subject sits in a comfortable arm chair, facing away from the examiner and his polygraph machine. Simple attachments are made to his arm, around his chest and to two of his fingers to measure the cardiac pattern (blood pressure and pulse rate), respiratory pattern and galvanic skin response (activity of the sweat glands). Tests usually last from 40 minutes to an hour per per-

son and a full, confidential report on each subject is made to the employer.

How does the polygraph work on different people with varying levels of emotional response? Polygraph examiners explain it this way:

Lying is a conscious, deliberate act accompanied by certain physiological reactions, such as blushing, respiratory and blood pressure variations, and perspiration. Routine questions about a person's name, age, and address help to establish a normal pattern for each person, although emotional traits and nervousness may vary considerably. Once the pattern is established, the machine records the variations to key questions which are interpreted by the examiner. The harder an attempt to lie is made, the more apparent physical reactions become because of the increased effort put forth to create what the subject likes to think is a normal response.

Tricks Fail

Many underworld characters have come up with various devices designed to fool the examiner. Some have tried thinking of lurid sex affairs in hope of stimulating a response that would confuse the results. Others have inserted tacks in their shoes to create pain and a subsequent erratic physical response during certain phases of the examination. But fear is still one of the strongest human emotions and the tensions that accompany it are recorded by the polygraph no matter how hard one tries to control them.


Fear of detection has helped crack many cases even before tests have begun. At one hotel, for instance, five employees marched into the manager's office and voluntarily confessed to thefts over a period of years when they learned that the entire staff would have to take a routine lie test.

There are, however, five kinds of personalities generally considered to be "incompatible" lie detector subjects: the insane, feeble-minded, psychopathic liars (people who don't consider it immoral to lie), dope addicts and those afflicted with certain abnormal physical conditions.

Using the lie detector in the hands of qualified examiners, agencies claim a score of 95 per cent accuracy in hundreds of cases. The

KELLEHER

**THE
MAGICAL
LEPRECHAUN
LINE**



KELLEHER

**MOTOR
FREIGHT
LINES, Inc.**

General Offices 3130 HALL ST.
ST. LOUIS, MO.

remaining five per cent have not been inaccurate, but rather labeled as "inconclusive" among incompatible subjects.

The lie detector itself actually does not detect lies. It is the interpretation of the results of the machine by a trained, qualified technician that determines whether or not a person is lying.

A case to illustrate this point occurred just recently: A troubled liquor store clerk went to a leading Chicago agency and asked that he be given a lie test to clear himself of theft suspicion at his store.

"I've just had a test made by another agency, the clerk said angrily, and the idiots found me guilty. I'm innocent and I want that proved to my employer beyond any doubt."

The second test proved him innocent, but it also disclosed that he had been cheating the wholesalers he dealt with, although he was on the level with his boss.

The first agency actually detected a sign of guilt, but the examiner was unable to distinguish the fact that the guilt was connected with other incidents. The lie detector can go just so far. The rest is up to the examiner.

Of course, you don't always need either a private investigator or a lie detector to solve a crime. Some cases are solved inadvertently. Take the one which involved a grammar school teacher who one day asked her pupils if they knew anything about the products made by a large industrial plant across the street.

"Sure," said one little boy. "They make fountain pens, light bulbs, hammers and paper clips."

The startled teacher wondered how an automobile transmission factory managed to turn out such a variety of items and asked the boy to explain.

"My daddy works there," the boy replied proudly, "and that's what he brings home in his lunch bucket."

Trends In Finance and Business

(Continued from page 10)

were made by some executives recently and sealed in a replica of the Rock of Gibraltar fixed in the lobby of The Prudential Insurance Company of America's Minneapolis, Minnesota office. Here are excerpts from some of the predictions:

Automobiles will require manual

guidance only to place them in the proper lane of a superhighway network, where electronic controls will take over, predicts Lester L. Colbert, President of the Chrysler Corporation;

The average family income will exceed \$10,000 compared with \$5,600 today, but there will be no great degree of inflation in the next 20 years, presages Harry A. Bullis, Chairman of the Board of General Mills, Inc. He also believes that "major technological advances will include cold sterilization of foods by radiation methods. High frequency electronic ovens in the home

will reduce cooking time from hours to minutes";

A small telephone will be available to carry on your person, predicts A. F. Jacobson, president of the Northwestern Bell Telephone Company;

By 1975, or shortly thereafter, intercontinental rockets will exist on both sides of the Atlantic Ocean, prophesies Dr. Alfred O. C. Nier, of the University of Minnesota;

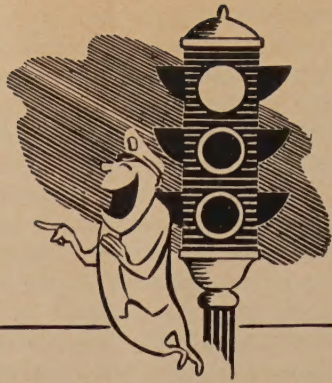
Dr. Charles W. Mayo of the Mayo Foundation believes that "some-time in the next 20 years a way of avoiding many forms of the common cold may be found."

Advertisers' Index

Agencies listed in italics

A		K	
A-Z Letter Service	30	Kane Service, The	6
Accurate Screw Co.	31	Frank C. Nahser, Inc.	
Alco Electric Supply Co.	37	Kedzie Protective Patrol	30
Allied Screw Machine Co.	37	Kelleher Motor Freight Lines, Inc.	38
Atlas Tag Co.	35	Greenway Adv. Agcy.	
		Kiwi Coders Corporation	30
B		L	
Baird & Warner	23		
Proebsting Taylor Inc.		Lou Steel Products Co.	24
Battey & Childs	29	Luse-Stevenson Co.	35
Boynton, A. J., & Co.	23		
Marsteller, Rickard, Gebhardt & Reed, Inc.		M	
Browne-Morse Co.	33	McCauley, James H., & Sons, Inc.	27
Don Harding Adv.		Modern Handling Equipment, Inc.	35
Buyers' Guide & Industrial Directory of Chicago	22		
C		P	
Callanan, Chas., & Associates	37	Peoples Gas Light & Coke Co.	4
Caspers Tin Plate Co.	34	Needham, Louis & Brorby, Inc.	
Chicago-Allis Mfg. Corp.	IFC	Personnel Laboratory, The	29
Spaulding Adv. Service		Pics Photographers	37
Chicago Name Plate Co.	30		
Chicago Rock Island & Pacific Railway	9	R	
The Caples Co.		Revere Electric Supply Co.	1
Chicago Tribune	B. C.	Kreicker & Meloan, Inc.	
Foot, Cone & Belding		S	
Cities Service Oil Co.	27	St. Paul Federal Savings & Loan Assn. of Chicago	30
Ellington & Company		Schrade-Batterson Co.	26
Clearing Industrial District	3	Dancer-Fitzgerald-Sample, Inc.	
D		Schweitzer, W. E., & Co.	28
DeLuw, Cather & Co.	29	Sheridan, L. J., & Co.	10
Doering, C., & Son, Inc.	29	Albert Frank-Guenther Law, Inc.	
H. A. Hooker Advertising Agency		Standard Oil Co.	11
Donnelley, Reuben H., Corp.	25	D'Arcy Adv. Co.	
N. W. Ayer & Son, Inc.		Stock Yard Inn	8
E		U	
Efengee Electrical Supply Co.	I. B. C.	Union Club Motor Livery	28
The Schram Company		United Air Lines, Inc.	2
Empire Warehouses, Inc.	34	N. W. Ayer & Son, Inc.	
Englewood Auto Parts	38	W	
H		Wabash Railroad Co.	32
Haines Company, The	24	Gardner Adv. Co.	
Harrington, J. J., & Co.	29	Watland Incorporated - Microfilm Div.	34
Harris Steel Co.	30	The Martin Company	
Spaulding Advertising Service		Western Rust-Proof Co.	24
I		Myron Geren	
Insured Investment Associates	31	Western Ventilating Co.	31
Campbell-Sanford Adv. Co.			
International Automation Exposition	36		
Torkel Gundel			

Stop me...If...



A man, after admiring a new-model car in the window of a downtown automobile concern, went inside and bought the car.

"Would you like to take it with you now?" the salesman beamed at him.

"No," murmured the man reflectively. "I think I'll just let it stay where it is. I'll never find another parking place this good."

A rich man lying on his death bed called his chauffeur, who had been in his service for years, and said —

"Ah, Sykes, I am going on a long and rugged journey, worse than ever you drove me."

"Well, sir," consoled the chauffeur, "there's one comfort — it's all downhill and you won't need any gasoline."

"Two men are outside," someone reported to the manager of the ball team, "and they want passes. Say they are friends of the umpire."

"Throw 'em out," said the manager. "No umpire's got two friends."

The dude and hillbilly were both rank privates and occupied adjoining bunks in the barracks. One day the dude inspected his toilet kit, glanced at his neighbor and demanded sharply: "Did you take my toothpaste?"

"No, I didn't take no toothpaste," came the answer. "I don't need no toothpaste. My teeth ain't loose."

"Do you act toward your wife as you did before you married her?"

"Exactly. I remember how I used to act when I first fell in love. I used to stand in front and look at her house, almost afraid to go in. Now I do the same thing some nights."

"You say you want a divorce on the grounds your husband is careless about his appearance?" the lawyer asked his client.

"That's right. He hasn't shown up in more than two years."

Bellhop (after guest has rung for ten minutes) — "Did you ring, sir?"

Guest — "No, I was only tolling, I thought you were dead."

The marble tournament was in full swing. One little boy had missed an easy shot, and let slip a real cuss word.

"Edward!" called a preacher from the spectators' bench, "what do little boys who swear when they are playing marbles, turn into?"

"Golfers," was the reply.

At a Communist meeting one of the comrades asked the speaker:

"What happens to my unemployment compensation checks when we overthrow the government?"

Having noticed that his Scottish guide usually went bareheaded in all sorts of weather, the London sportsman made him a gift of a fur cap, the kind that has the heavy ear flaps for extra warmth. On his next visit to the hunting lodge, in the middle of winter, in the Highlands, he asked the old Scot how he liked the cap.

"I have not worn it since the accident," was the gloomy reply.

"What accident?" his benefactor queried.

"Jock McLeod offered to buy me a drink," sighed the guide, "ana I dinna hear him."

A young man whose father had been hanged, was filling out a life insurance form and was rather at a loss to express the cause of the death of his parents. After much thought and brow-wrinkling, he finally wrote:

"Mother died of pneumonia. Father was taking part in a public function, when the platform gave way."

Six-year-old Willie was lecturing little George, aged three, on the value of various coins in his pocket.

"Now this," he said, "is a dime. It will buy two candy bars." "This," he continued extracting another, "is a nickel. It will buy only one candy bar."

He fished around and brought out a third coin. "And this," he said with a faintly contemptuous air, "is a penny. All it's good for is Sunday School."

A guest in a restaurant ordered two one-pound steaks and after he had eaten them he admitted he had no money. The restaurant owner called the police.

The police representative asked the steak-eater why he ordered two steaks when he couldn't even pay for one.

"I haven't had a steak since the last time I got arrested for the same thing," he said.

Mrs. Newlywed: "We hadn't been married a week when he hit me with a piece of sponge cake."

Judge: "Disorderly conduct. Five dollars and costs."

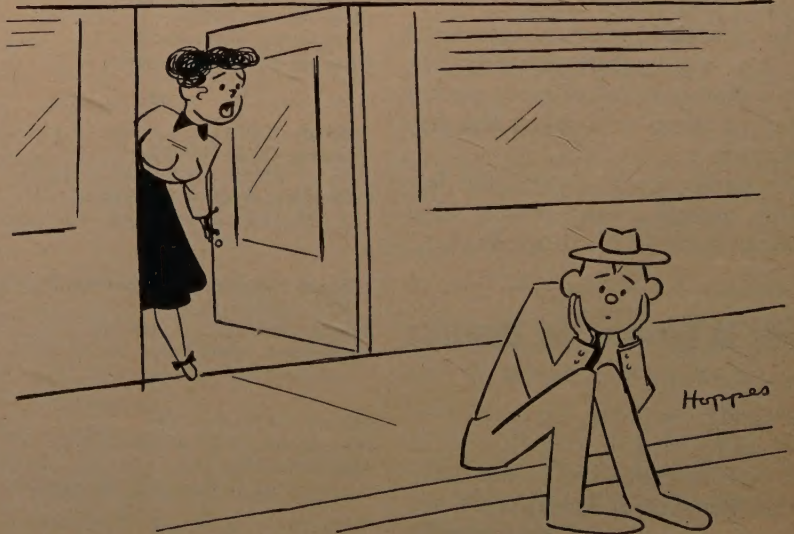
Mrs. Newlywed (softly sobbing): "And I'd made the cake with my own hands."

Judge: "Assault with a deadly weapon — one year."

"Was your uncle in his right mind to the very last?"

"I don't know. The will won't be read until tomorrow."

MANUFACTURING Co



"We sure miss your clowning around the office, Eddie! Your imitation of the v. p. was a scream!"